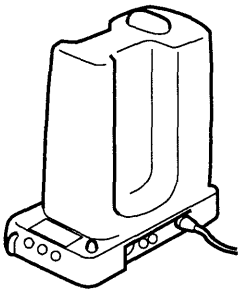
SERVICE MANUAL

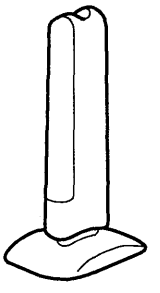
MODEL	COMMANDER	DEST.	CHASSIS NO.
VIP-1000		AEP	

MODEL	COMMANDER	DEST.	CHASSIS NO.

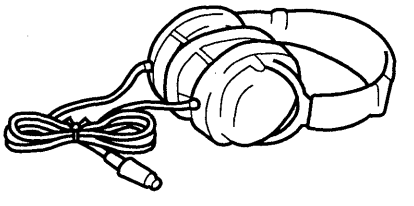
virtualphones™



VIP-1000



TMR-IF310



VIP-1000H

Cordless Stereo Headphone System

SONY®

SPECIFICATIONS

Transmitter (TMR-IF310)

Modulation system	Frequency modulation
Carrier frequency	Right 2.8 MHz Left 2.3 MHz
Effective range	Up to approx. 5 m
Dimensions (W/H/D)	Approx. 70 x 207 x 123 mm
Mass	Approx. 110 g

DSP unit (VIP-1000)

Frequency response	20-20,000 Hz (LINE INPUT, EFFECT OFF)
Distortion	Less than 1 % at 1 kHz (LINE INPUT, EFFECT OFF)
Power source	220 - 240 V AC, 50 Hz
Power consumption	20 Wh
Audio input	Line input Hight: 2 Vrms 100% modulation Low: 0.5 Vrms 100% modulation
Dimensions (W/H/D)	Approx. 145.5 x 274 x 261.9 mm
Mass	Approx. 2.5 kg

Headphones (VIP-1000H)

Mass	Approx. 340 g

Supplied accessories

Mains adaptor (1)
Audio cable (1)
Ear pads (2)

Design and specifications are subject to change without notice.

The infrared sensor of the VIP-1000 uses DNR™ (Dynamic Noise Reduction system).
"DNR is a tradmark of National Semiconductor Corporation."

TABLE OF CONTENTS

Section Title Page

1. GENERAL
Welcome 3
Unpaking 4
Connections 4
Listening to a programme 6
Selecting the sound field effect 8
Parts Identification (TMR-IF310) 8
Connecting to Audion/Video Equipment (TMR-IF310) 8

2. DISASSEMBLY
2-1. HP CABINET REMOVAL (VIP-1000) 9
2-2. Z BOARD REMOVAL 9
2-3. BAFFLE REMOVAL (VIP-1000H) 9
2-4. CABINET REMOVAL (TMR-IF310) 9

3. DIAGNOSIS
DSP OPERATION CHECK MODE 10

4. ADJUSTMENTS (TMR-IF310)
Oscillating Frequency Adjustment 12
RF Level Adjustment 12

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFEOPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

Section Title Page

5. DIAGRAMS
5-1. Block Diagrams 13
5-2. Circuit Boards Location 15
5-3. Schematic Diagrams and Printed Wiring Boards 15
• Z board 16
• XY board (1/2) 23
• XY board (2/2) 26
• TX board (TMR-IF310) 29
5-4. Semiconductions 33

6. EXPLODED VIEWS
6-1. Chassis 34
6-2. Transmitter (TMR-IF310) 35
6-3. Headphone 36

7. ELECTRICAL PARTS LIST 37

SECTION1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

VIP-1000

Welcome!

Thank you for purchasing the Sony cordless stereo headphone system. This headphone system is designed to make your A/V life more enjoyable. With your new headphone system, you can enjoy clear and realistic theatre-like sounds from the headphones while in the comfort of your own home.

Before operating this headphone system, please read this manual thoroughly and retain it for future reference.

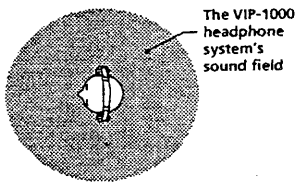
What is the VIP-1000 cordless stereo headphone system?

The VIP-1000 is a new type of headphone system which has a spatial sound field effect function. Once you activate this function, the DSP (Digital Signal Processor) unit remembers the sound front position (sound direction) and automatically adjusts the headphones to compensate for the shifting sound position whenever you turn your head. With this function, you can experience sound movement that is linked to the picture movement. The result is improved clarity of words and music fixed to the scene as if you are listening to the sound from stereo speakers. The DSP gives you clear and realistic sound and allows you to select the DSP mode and different levels of acoustic reverberation without loss of sound quality.

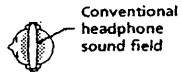
This new type of headphone system has the following features.

- Out of head sound image for accurate reproduction of the sound field
  The DSP unit recognises a full 360 degree sound field and enables you to hear an accurate indoor sound field simulation. You can enjoy this effect for any sound.

Sound field of the new headphone system

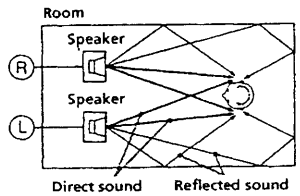


Sound field of current headphone systems

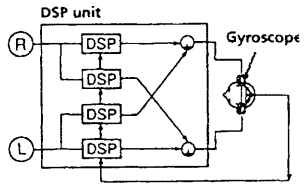


- Direction compensation
  A gyroscope built into the headphones can detect your head angle and compensate the sound transfer characteristic from the source to your ears. You can experience the natural sound field and quality as if you were listening from stereo speakers.

Ordinary stereo sound field (with speakers)



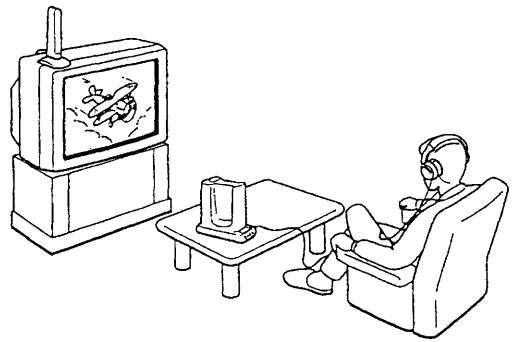
New sound field (with the VIP-1000)



- Fully open headphones
  Since these comfortably fitting, fully open headphones do not completely cover your ears, they reduce the discomfort from ear pressure and tiredness from prolonged listening. These headphones are designed to effectively reproduce the natural sound field effect.

Configuration of the headphone system

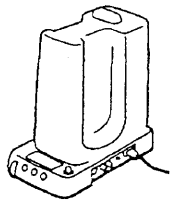
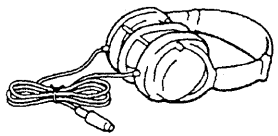
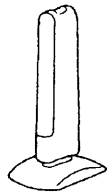
The headphone system consists of a DSP unit, the headphones, and a transmitter. With the transmitter, you are free from the restriction of an audio cable when listening to a programme. You can use this system with any audio/video equipment with line output jacks.



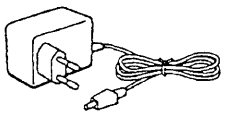
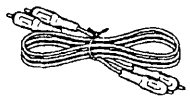
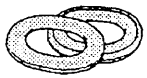
Unpacking

Check that you have the following items:

- DSP unit
- Headphones
- Transmitter

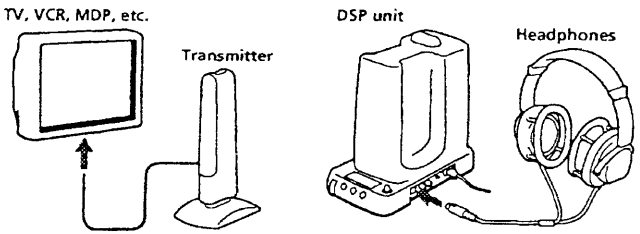
- Mains adaptor
- Audio cable (1.5 m) (phono plugs ⟷ phono plugs)
- Ear pads

Connections

Overview

Set up the headphone system as follows:

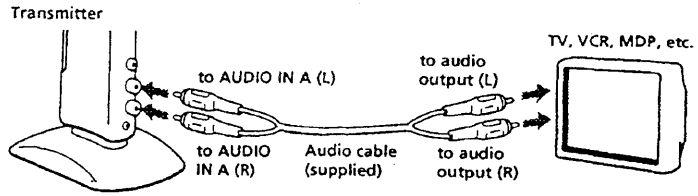


For details of each connection, see the following pages.

Connecting to audio/video equipment

Connecting the transmitter to the audio/video equipment

When you use the supplied audio cable, connect the AUDIO IN A jacks to the LINE OUT or REC OUT jacks of the source equipment.



Note

Do not use A and B terminals at the same time. If you do so, the audio signals may be mixed.

Optional connecting cords

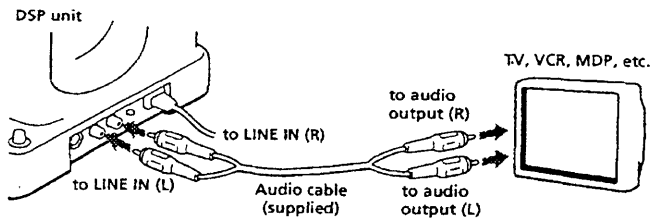
For connecting the LINE OUT or REC OUT jacks to the AUDIO IN B jack, or for connecting the headphone jack to the AUDIO IN A jacks:
RK-G129HG (stereo mini plug ⟷ phono plug × 2).

For connecting the headphone jack to the AUDIO IN B jack:
RK-G136HG (stereo mini plug ⟷ stereo mini plug).

If you want to connect the DSP unit directly to the audio/video equipment

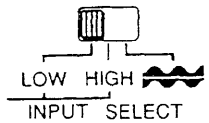
Connect the DSP unit directly to the audio/video equipment in the following cases. (The transmitter will not be used.)

- When you want to enjoy better quality sound
- When you want to use the headphone system beyond the infrared effective area (see "Effective area of the infrared rays" on the next page)
- When there are any obstacles between the transmitter and the connected audio/video equipment



Setting the input level

When you connect the DSP unit directly to the audio/video equipment, you must set the INPUT SELECT switch to the appropriate position depending on the output level of the connected equipment.
Make sure to change the setting to prevent sound distortion and to protect your ears.

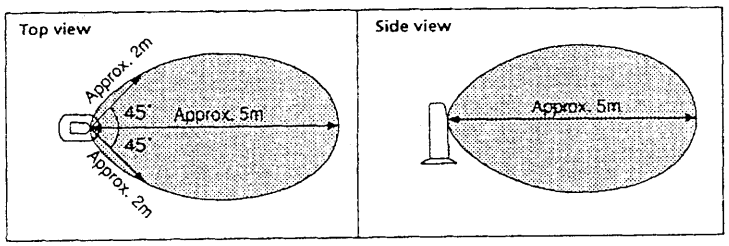


Position	Connected equipment
LOW	TV, VCR, MDP (when the output is analog sound)
HIGH	MDP (when the output is digital sound)
≈	Supplied transmitter

Notes
- If nothing is connected to the LINE IN jacks of the DSP unit, the DSP unit will automatically input the signal from the transmitter.
- Turn down the volume whenever you change the input setting.

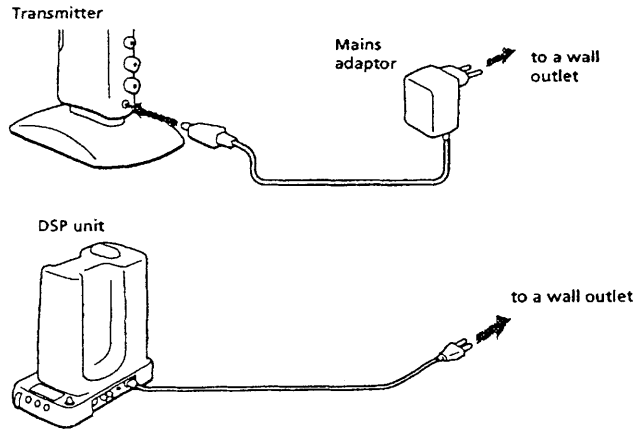
Effective area of the infrared rays

The diagrams illustrate the approximate area covered by the infrared rays emitted from the transmitter. Position the transmitter so that your listening area is within the effective area of the transmitter.



Notes
- The infrared rays will not penetrate walls or opaque glass; therefore, the DSP unit must be used within the "in sight" area of the transmitter.
- As long as you use the DSP unit inside the area the diagrams above illustrate, the transmitter can be placed in the front, behind or by the side of the listener.
- The brightness of the infrared emitters may not be equal. However, this is not a malfunction and does not affect the effective areas of the transmitter.

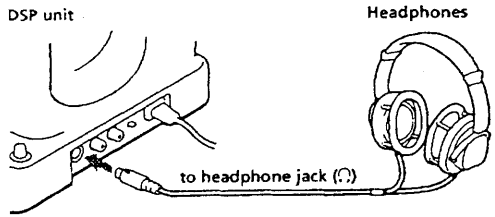
Connecting to a wall outlet



Note
Use only the supplied mains adaptor for the transmitter. Do not use any other mains adaptor, or it may cause a malfunction of the unit.

Polarity of the plug

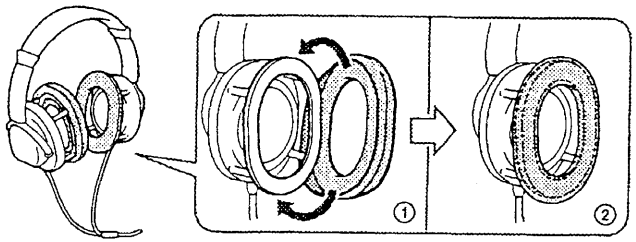
Connecting the headphones to the DSP unit



Note
To disconnect the headphones, pull the headphone cord out by grasping the plug. Never pull it by the cord.

Attaching ear pads

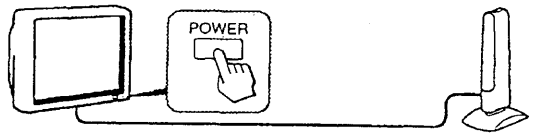
If the fit of the headphones is not comfortable around your ears, attach the supplied ear pads as shown below.



Note
The ear pad's lip should cover the headphone ring entirely without gaps so that it will remain on the headphone without slipping off when you wear the headphones.

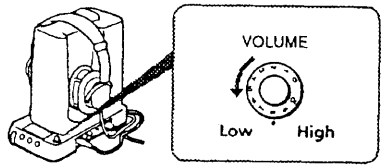
Listening to a programme

1 Turn on the audio/video equipment connected to the transmitter. When the audio signal is supplied, the transmitter turns on automatically, and the infrared emitter lights glow. If the transmitter is connected to the headphone jack of the source equipment, set the volume control of that equipment as high as possible without the audio signal getting distorted.

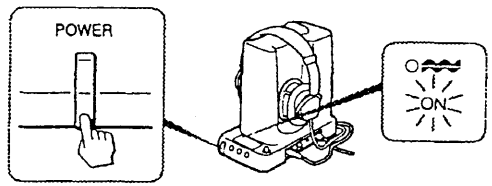


Note
Make sure you set INPUT SELECT on the DSP unit to the appropriate position.

2 Turn the volume of the DSP unit to the minimum level.

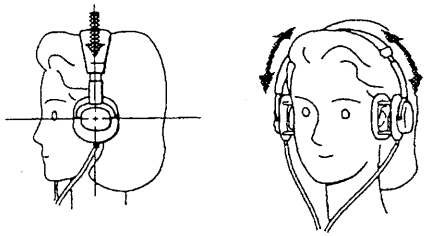


3 Put the headphones on the top of the DSP unit, then press POWER on the DSP unit.
Do not move the headphones from the DSP unit while "ON" is blinking.
"ON" blinks in the display window for a few seconds, and the ≈ indicator lights up indicating that it is receiving the signal from the transmitter.



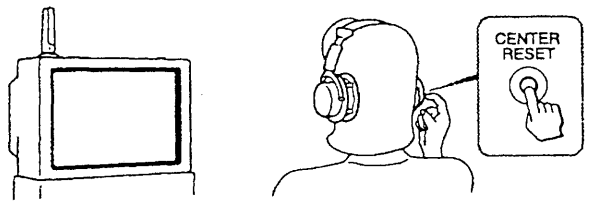
(continued)

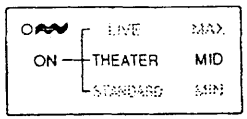
4 Put on the headphones vertically, and adjust the slider band. Make sure that the headphones are correctly oriented: i.e., the left headphone is on the left ear.



Note
When you take off the headphones, handle them carefully with both hands, not with one hand.

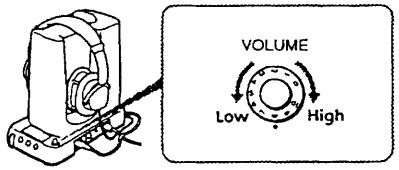
5 Turn your head to your desired sound front position (e.g., in front of the TV), then press CENTER RESET on the right headphone. You can now select the DSP mode and reverberation levels of your choice. The selected mode and level will appear in the display window. For details of the DSP mode and reverberation levels, see "Selecting the sound field effect" on page **14**.





After you press CENTER RESET, you will hear the sound coming from the specified sound front position whenever you turn your head. It is just like listening to the sound from stereo speakers, not from the headphones.

6 Adjust the volume by using VOLUME on the DSP unit.



Notes on the transmitter and DSP unit
- Be sure to remain in the effective range of the infrared rays while listening (see "Effective area of the infrared rays" on page **8**).
- Do not cover the infrared sensor with your hands.
- If you use the infrared sensor on the DSP unit under a strong light, such as direct sunlight, sound may be intermittent.

Notes on the headphones
- While you are using the headphones, a change of sound direction may occur between the headphones and the audio/video equipment. If this happens, face the audio/video equipment (e.g. face the front of the TV), and press CENTER RESET again.
- Do not use the headphones under the direct sunlight.
- Remember not to disturb those close to you with sounds coming from your headphones.
- Keep the volume at a moderate level. This will allow you to hear outside sounds and protect your ears.
- If the headphones are used at a high volume, outside sounds may become inaudible. Avoid listening to the unit in situations where hearing must not be impaired.

After using the headphones
When you are finished using the headphones, turn off the DSP unit first, then turn off the connected equipment to the transmitter. Otherwise, you may hear some noise when the infrared rays are suddenly cut off. However, this is not a sign of malfunction.

When no audio signal is received by the DSP unit for more than approximately three minutes
The transmitter will turn itself off automatically when over three minutes have passed without the DSP unit receiving an audio signal.

When the audio signal is interrupted or when extremely low sound continues for more than approximately three minutes
The transmitter may turn itself off in instances when the audio signal coming from the audio/video equipment is interrupted or when the signal or sound level is very low for at least three minutes. If the transmitter is connected to the headphone jack of the source equipment, increase the volume of that equipment and lower the volume of the DSP unit.

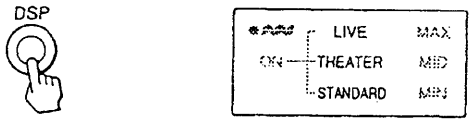
Selecting the sound field effect

The VIP-1000 reproduces reflected and reverberated sound using its digital signal processor. This unit incorporates three types of DSP (Digital Signal Processor) modes: LIVE, THEATER, and STANDARD. You can enjoy these modes at your pleasure and adjust the reverberation of each DSP mode to suit your taste.

Turn on EFFECT to make the DSP and reverberation functions work.

Selecting the DSP mode

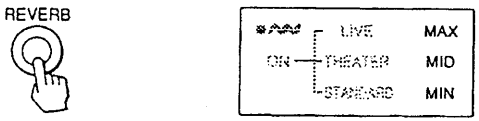
Press DSP to select the DSP mode.



DSP mode	Sound effect
LIVE	Reproduces the reflection characteristics of a large concert hall
THEATER	Reproduces the reflection characteristics of a movie theatre
STANDARD	Reproduces the reflection characteristics of a standard house room

Adjusting the reverberation

Press REVERB.



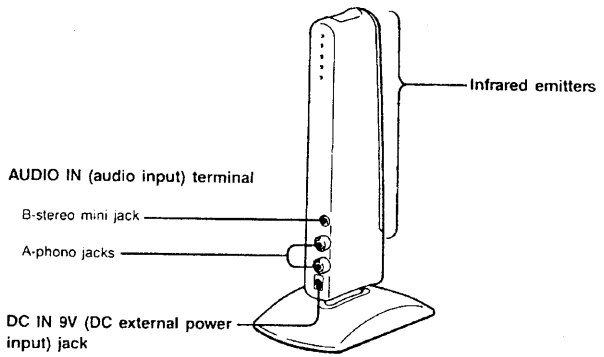
Reverberation level	Adjustment
MAX	To select the maximum level of reverberation
MID	To select the middle level of reverberation
MIN	To select the minimum level of reverberation

To turn off the sound field effect

Press EFFECT to turn off the sound field effect. "OFF" will appear in the display window, and other indicators will disappear. The sound from the headphones will become ordinary headphone sound.

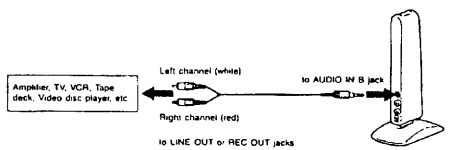
Parts Identification

Transmitter



Connecting to Audio/Video Equipment

Connecting the Transmitter to the LINE OUT or REC OUT Jacks


Amplifier, TV, VCR, Tape deck, Video disc player, etc
Left channel (white)
Right channel (red)
to AUDIO IN B jack
to LINE OUT or REC OUT jacks

Do not use A and B terminals at the same time. If you do so, the audio signals may be mixed. When you use the supplied connecting cord and you wish to connect it to the LINE OUT/REC OUT jacks of the source equipment, connect the other end to the AUDIO IN B jack of the transmitter. If you wish to connect the cord to the HEADPHONES jack of the source equipment, connect the other end to the AUDIO IN A jacks of the transmitter.

Optional connecting cords

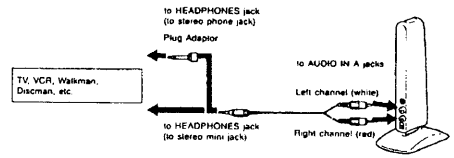
For connecting the LINE OUT/REC OUT jacks to the AUDIO IN A jacks:
RK-C510KS(1m)/C515KS(1.5m)/CS20KS(2m) (phono plug × 2 ↔ phono plug × 2)

For connecting the HEADPHONES jack to the AUDIO IN B jack:
RK-G136KS (stereo mini plug ↔ stereo mini plug)

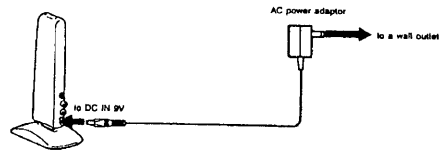
Optional connecting cord similar to the one supplied to this unit:
RK-G129KS (stereo mini plug ↔ phono plug × 2)

Connecting the Transmitter to the HEADPHONES Jack/ Earphone (monaural mini) Jack

When you connect the connecting cord directly to an earphone jack, the audio signal will not be outputted through the right channel. In such a case, use the separately sold plug adaptor PC-236MS (stereo mini jack ↔ monaural mini plug)


to HEADPHONES jack (to stereo phone jack)
Plug Adaptor
TV, VCR, Walkman, Discman, etc.
to AUDIO IN A jacks
Left channel (white)
Right channel (red)
to HEADPHONES jack (to stereo mini jack)

Connecting to a Wall Outlet

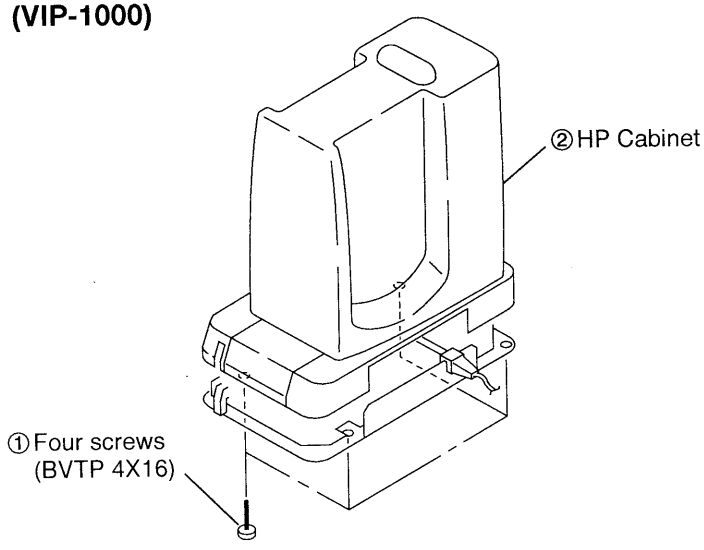


Note on the AC power adaptor

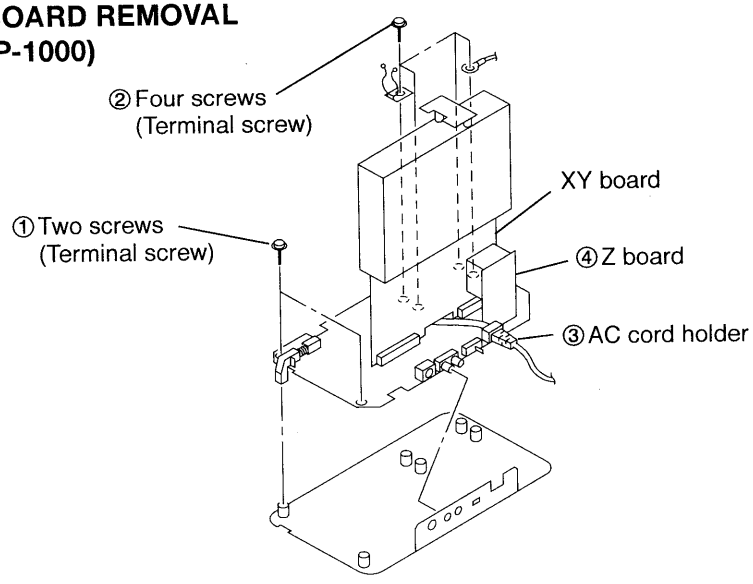
Use only the supplied AC power adaptor. Do not use any other AC power adaptor.

SECTION 2
DISASSEMBLY

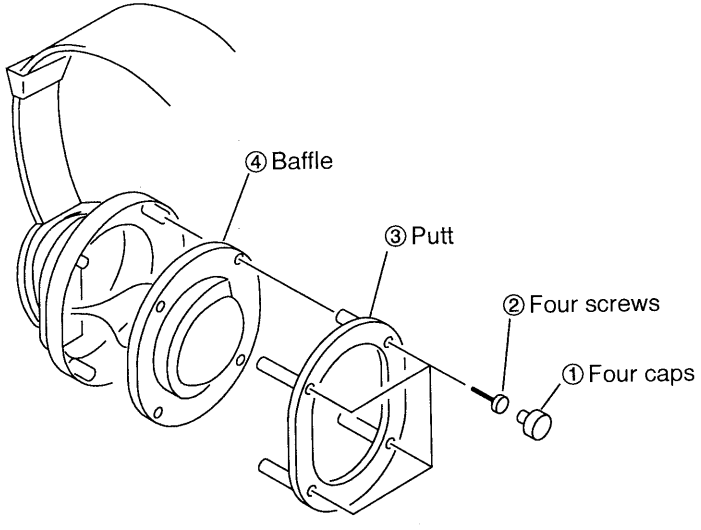
2-1. HP CABINET REMOVAL (VIP-1000)



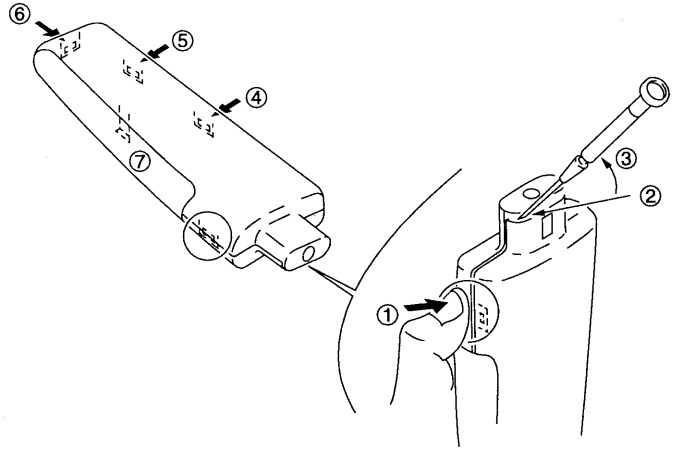
2-2. Z BOARD REMOVAL (VIP-1000)



2-3. BAFFLE REMOVAL (VIP-1000H)



2-4. CABINET REMOVAL (TMR-IF310)



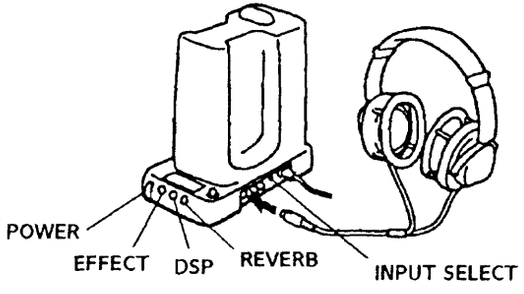
SECTION 3
DIAGNOSIS

ADJUSTMENT ITEM AND PROCEDURE

DSP OPERATION CHECK MODE

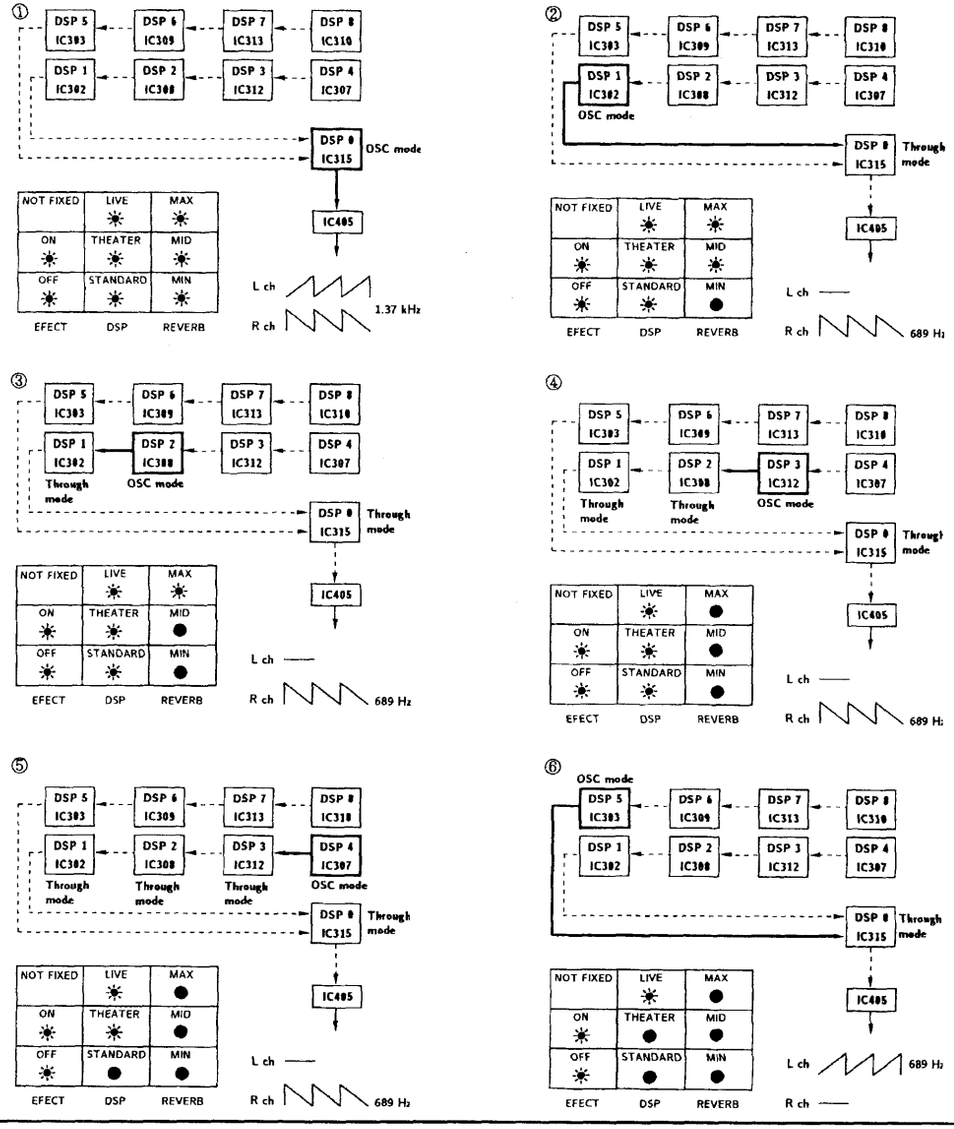
By using this test mode, the operation of the circuits beyond DSP can be checked.

HOW TO CHECK DSP



1. Turn OFF the power.
2. Set the input mode to "Infrared Reception Mode".
   (Removing the LINE INPUT of setting INPUT SELECT to IR.)
3. Simultaneously press the 3 keys of EFFECT, DSP and REVERB and turn ON the power with the POWER key.
4. All LEDs will light. (IR LED is not fixed.)
5. Release your fingers from the 3 keys of EFFECT, DSP and REVERB. The LEDs go out. (IR LED is not fixed.)
6. Press the DSP key. The DSP operation can be checked in order by pressing the DSP key.
   Each DSP to oscillation mode or through mode is set in order and each DSP operation is checked.

ILLUSTRATION AND SHAPE AND NUMBER

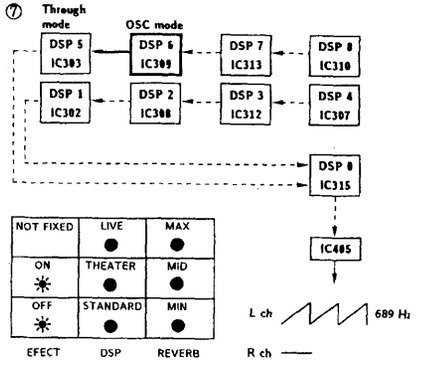


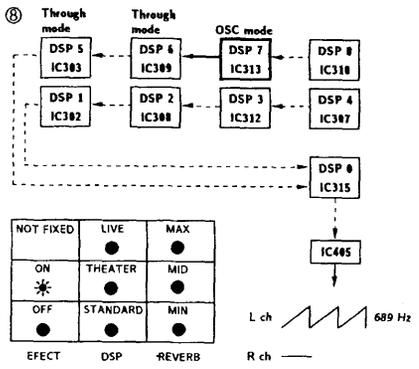
ADJUSTMENT ITEM AND PROCEDURE

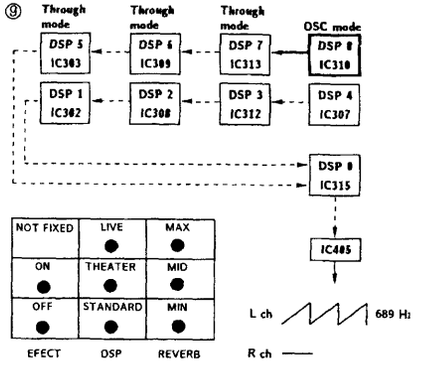
HOW TO EXIT THE DSP CHECK MODE

1. By pressing any other key than the DSP key, you can exit the DSP check mode.

ILLUSTRATION AND SHAPE AND NUMBER







SECTION 4
ADJUSTMENTS (TMR-IF310)

ADJUSTMENT ITEM AND PROCEDURE	ILLUSTRATION AND SHAPE AND NUMBER

1. The adjustments should be performed in the order given.
2. The adjustments and measurements should be performed for both L-ch and R-ch unless otherwise indicated.

[Oscillating Frequency Adjustment]

Adjustting Procedure :

No signal state.

1. Short circuit between TP1 and TP7.
2. Connect the frequency counter to TP4 (L-ch) and TP5 (R-ch).
3. Adjust with L51 (L-ch) and L1 (R-ch) so that the reading on the frequency counter becomes the adjustment value.

Adjustment Value :

L-ch	L51	2.3 MHz ± 3 kHz
R-ch	L1	2.8 MHz ± 3 kHz

[RF Level Adjustment]

Adjusting Procedure :

No signal state.

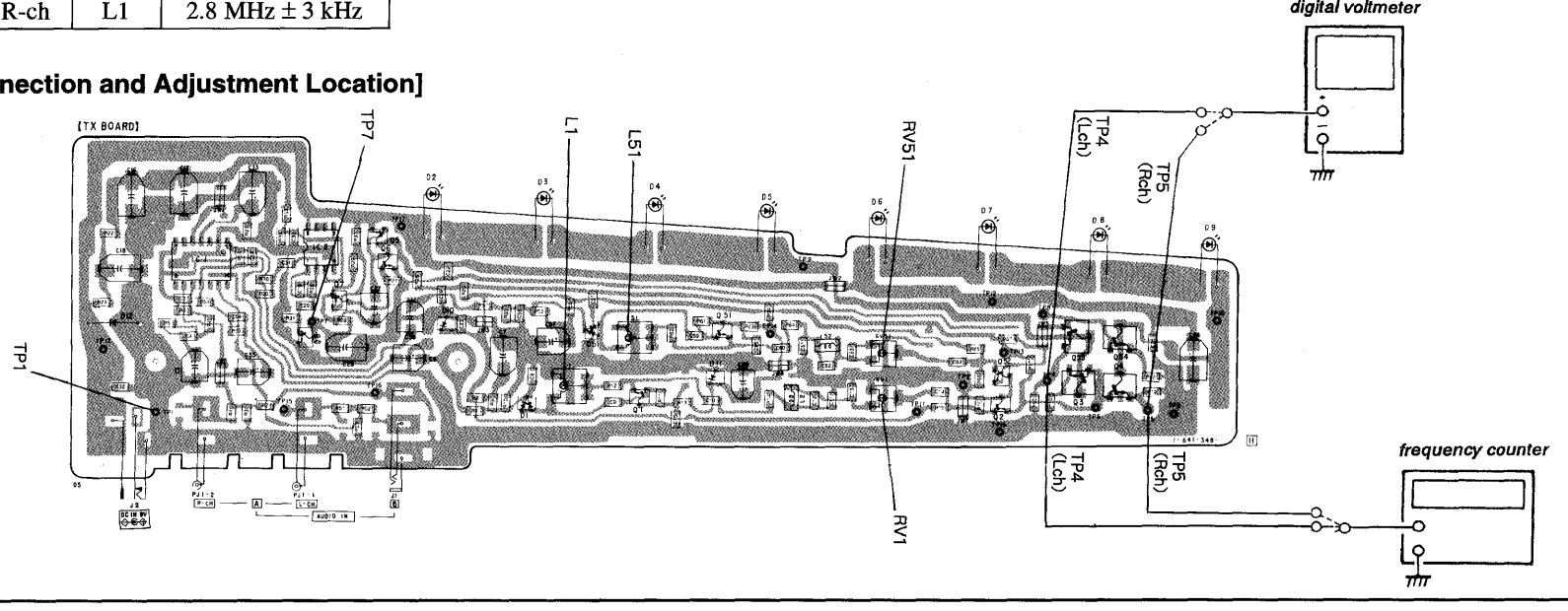
1. Connect the digital voltmeter to TP4 (L-ch) and TP5 (R-ch).
2. Adjust with RV51 (L-ch) and RV1 (R-ch) so that the reading on the digital voltmeter becomes the adjustment value.

Adjustment Value :

L-ch	RV51	240 mV ± 5 mV
R-ch	RV1	240 mV ± 5 mV

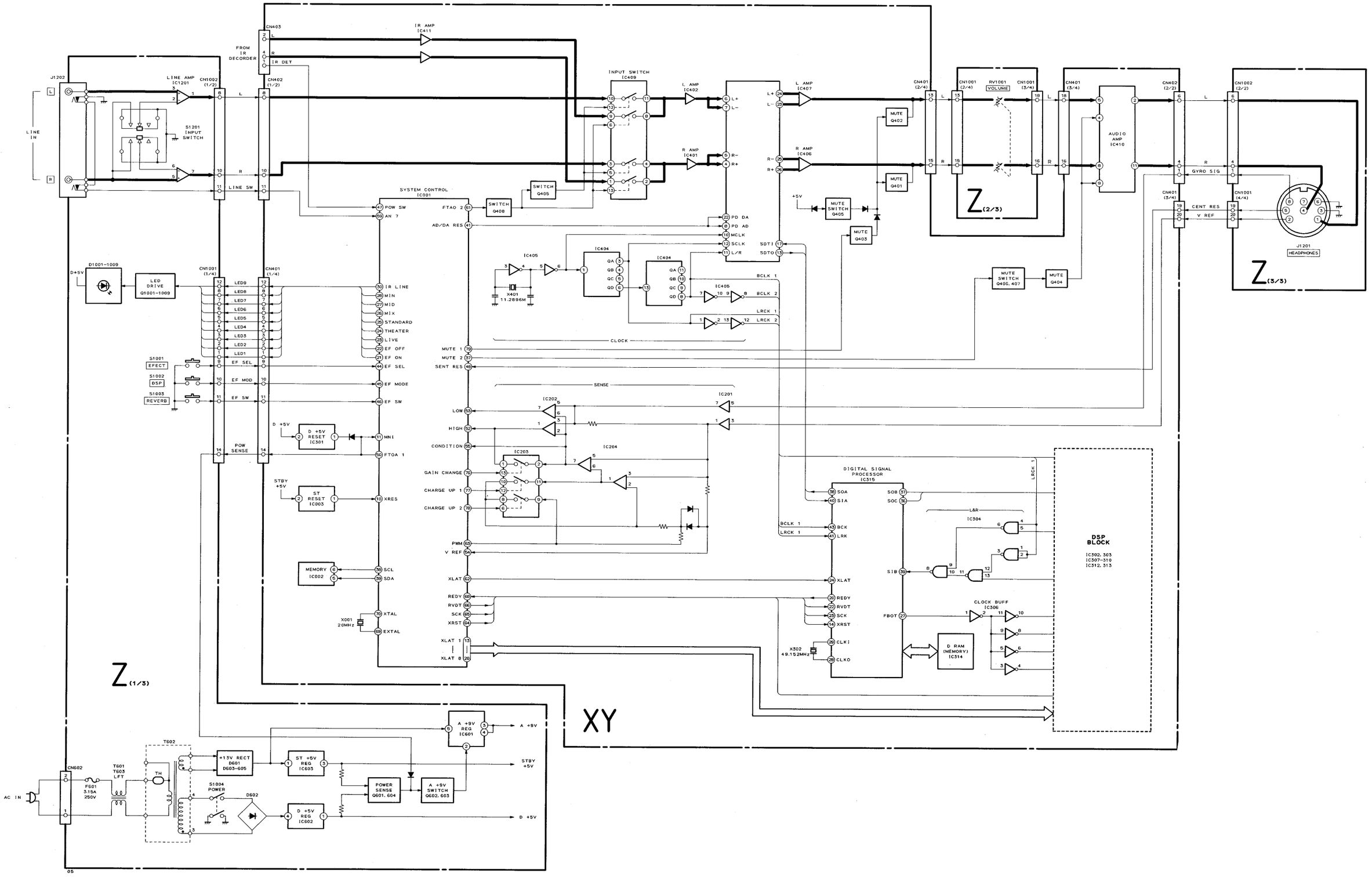
3. Release the short-circuit between TP1 and TP7.

[Connection and Adjustment Location]

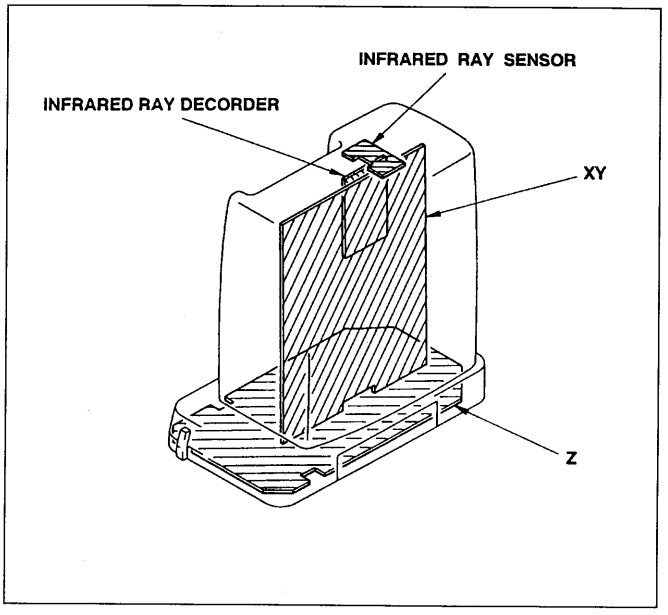


SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS



5-2. CIRCUIT BOARDS LOCATION



5-3. PRINTED WRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms.
  kΩ=1000Ω, MΩ=1000kΩ
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : 1/4 W

- : nonflammable resistor.
- △ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

- Readings are taken with a 10MΩ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- ∗ : Can not be measured.
- Circled numbers are waveform references.
- : B+line.
- : B-line.
- : signal path.

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Schematic diagrams

Z board ➡

Z BOARD TRANSISTOR LIST

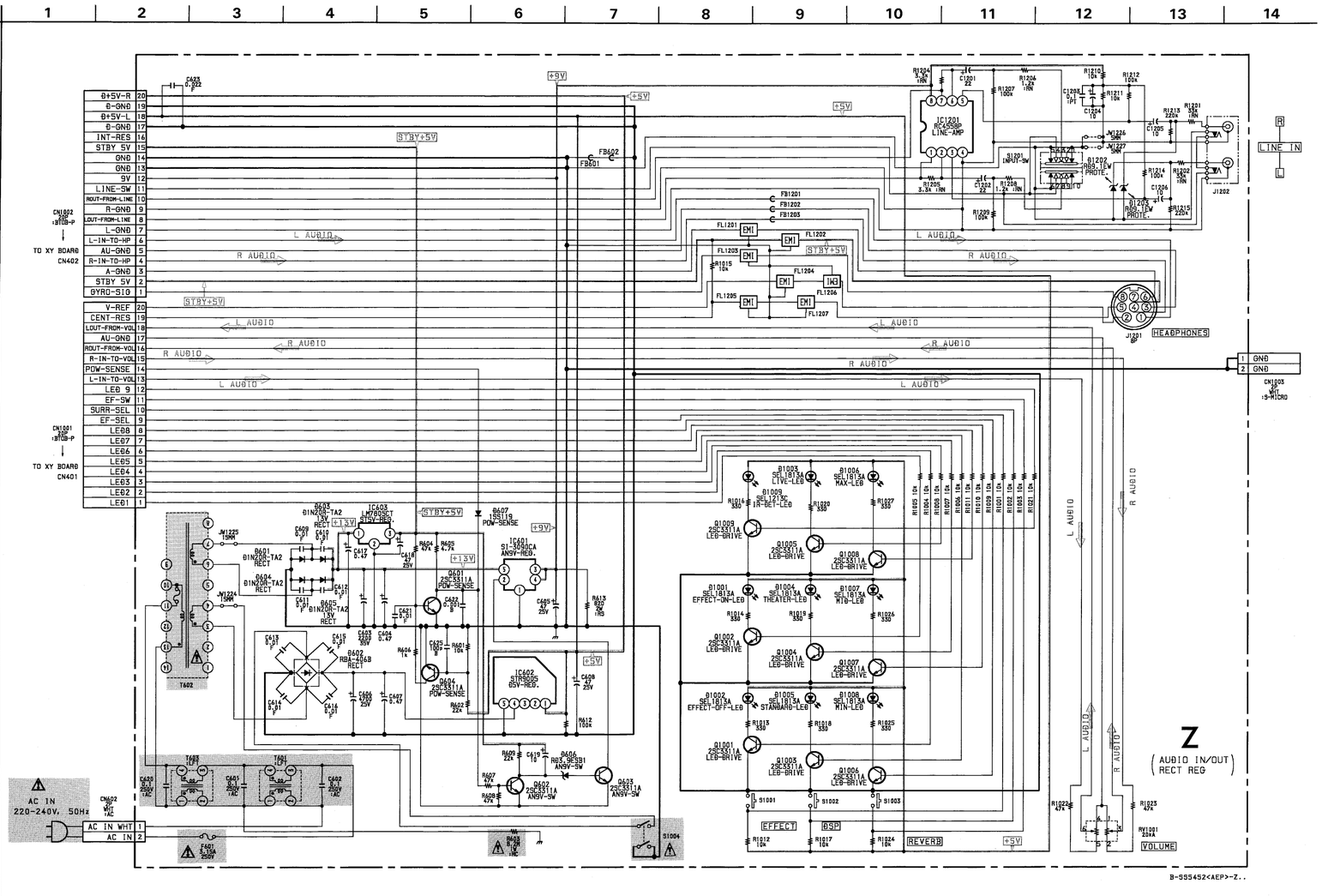
REF	B	C	E
Q601	0.2	4.7	GND
Q602	0.7	0	GND
Q603	-0.3	4.3	GND
Q604	0.7	0	GND
Q1001	0	5.7	GND
Q1002	0.8	0	GND
Q1003	0	5.7	GND
Q1004	0.8	0	GND
Q1005	0	5.7	GND
Q1006	0	5.5	GND
Q1007	0.8	0	GND
Q1008	0	5.7	GND

All voltages are in V

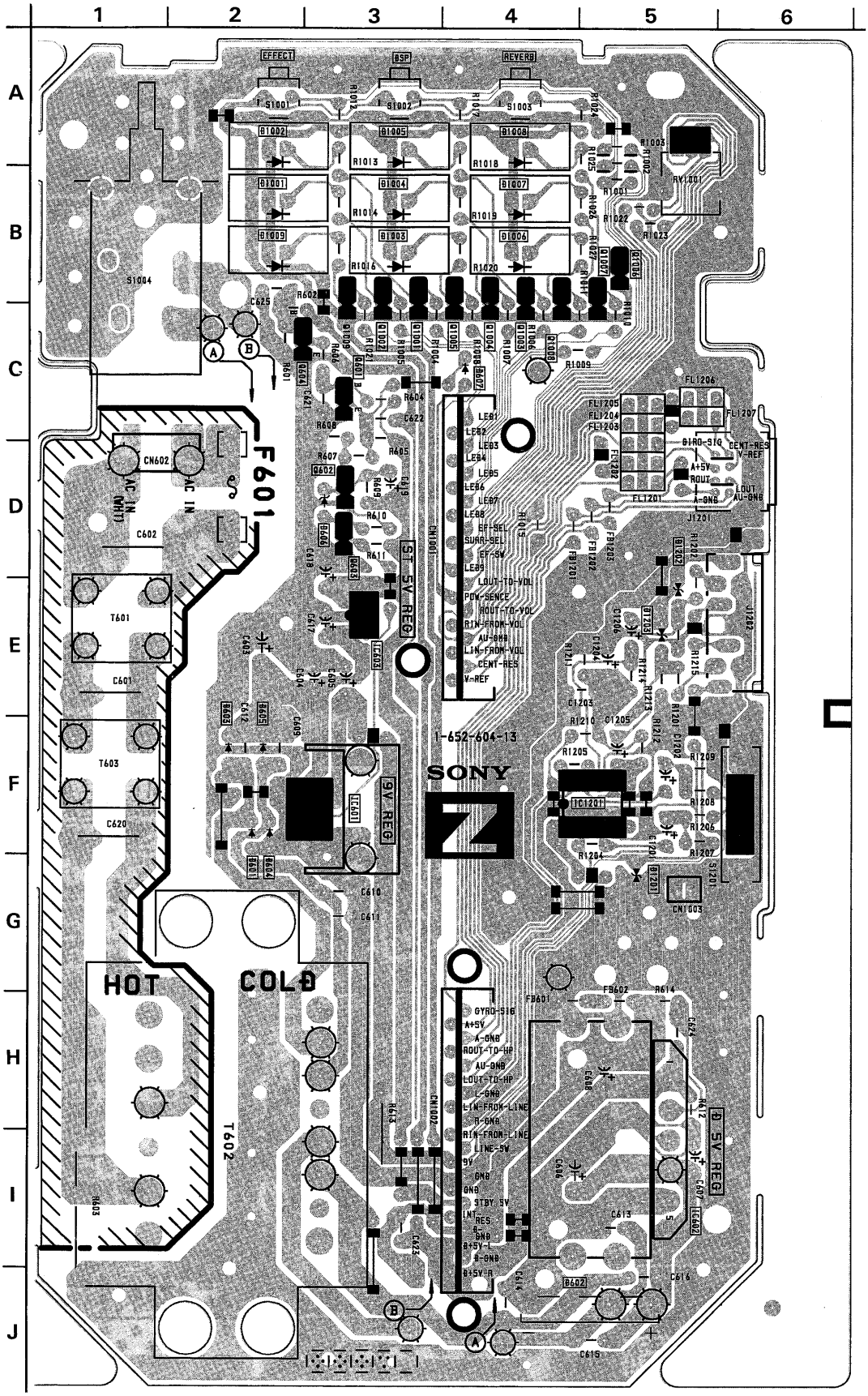
Z BOARD IC VOLTAGE LIST

IC601	1	GND
	2	4.3
	3	9.0
	4	9.0
	5	13.0
IC602	1	5.0
	2	–
	3	GND
	4	8.1
	5	GND
IC603	1	13
	2	GND
	3	5.0
IC1201	1	4.6
	2	4.6
	3	6.4
	4	GND
	5	4.6
	6	4.6
	7	4.6
	8	9.0

All voltages are in V
– : Blank pin



– Z BOARD –



Z BOARD

IC	
IC601	F-3
IC602	I-5
IC603	E-3
IC1201	F-5
TRANSISTOR	
Q601	C-3
Q602	D-3
Q603	D-3
Q604	C-2
Q1001	C-3
Q1002	C-3
Q1003	C-4
Q1004	C-4
Q1005	C-4
Q1006	B-5
Q1007	B-5
Q1008	C-4
Q1009	C-3
DIODE	
D601	F-2
D602	J-5
D603	F-2
D604	F-2
D605	F-2
D606	D-3
D607	C-4
D1001	B-2
D1002	A-2
D1003	B-3
D1004	B-3
D1005	A-3
D1006	B-4
D1007	B-4
D1008	A-4
D1009	B-9
D1202	E-5
D1203	E-5
VARIABLE RESISTOR	
RV1001	B-5

XY SYSCON DSP, AD/DA CONVERT, AUDIO AMP, SENSER AMP

– XY BOARD –

Note :

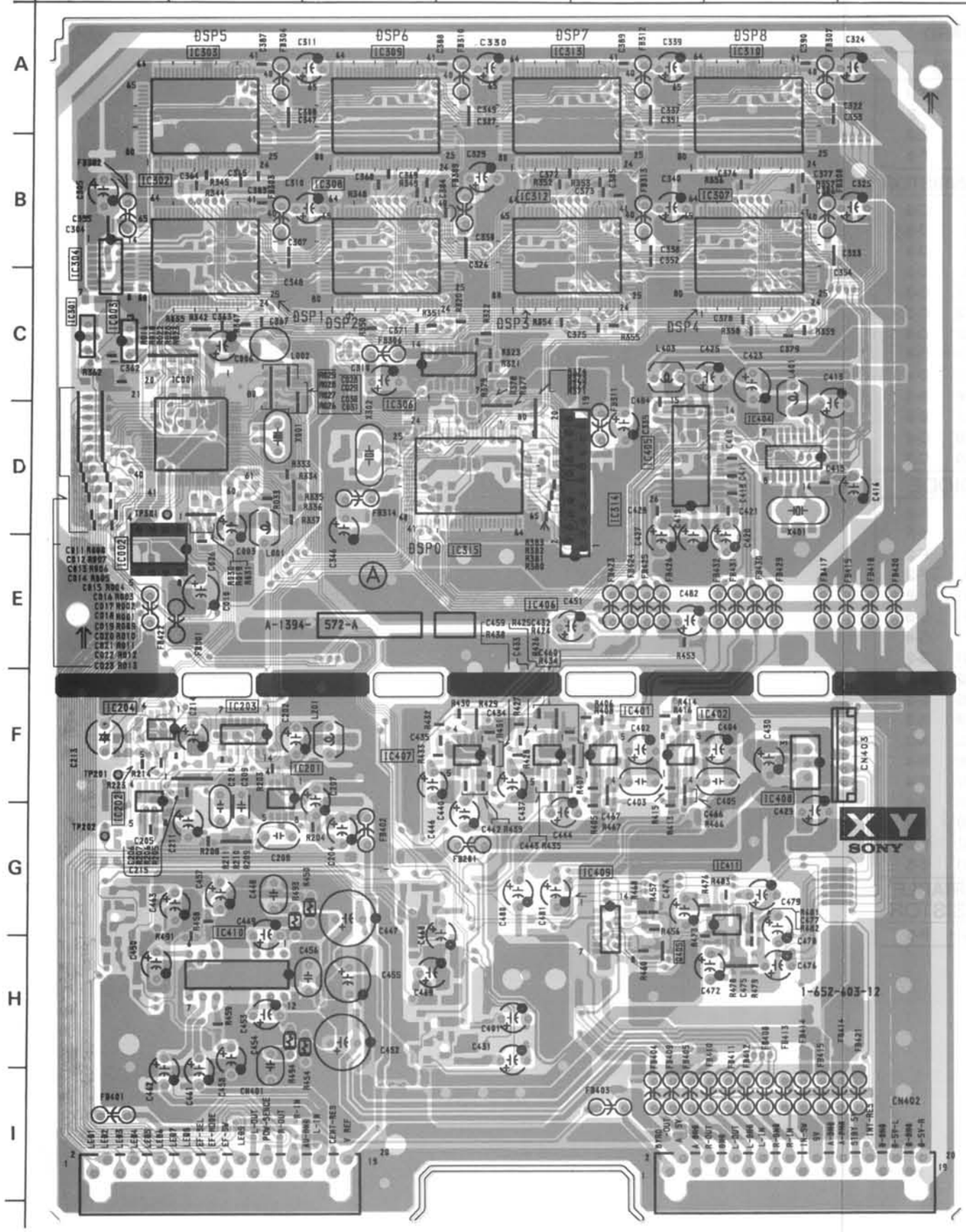
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

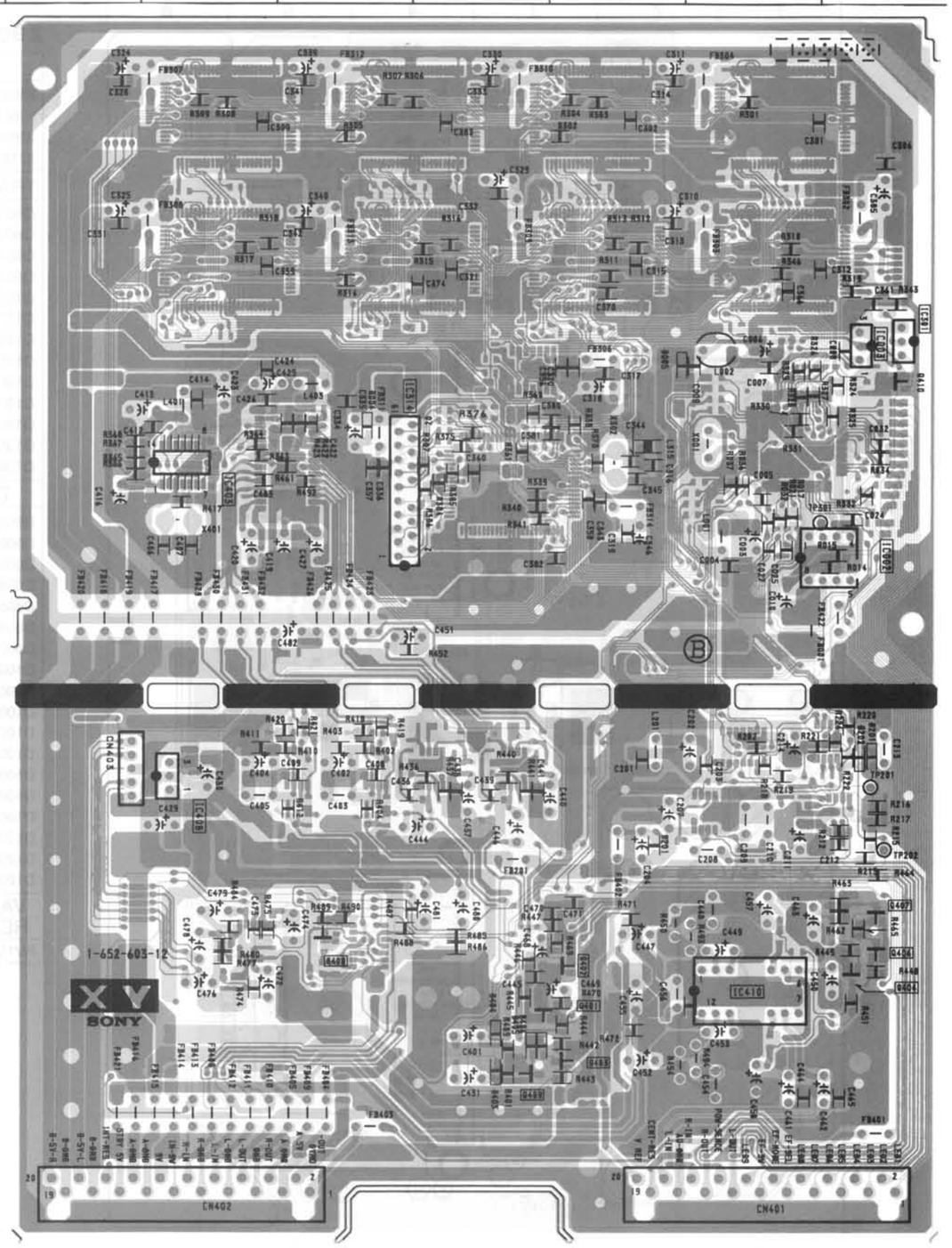
XY BOARD

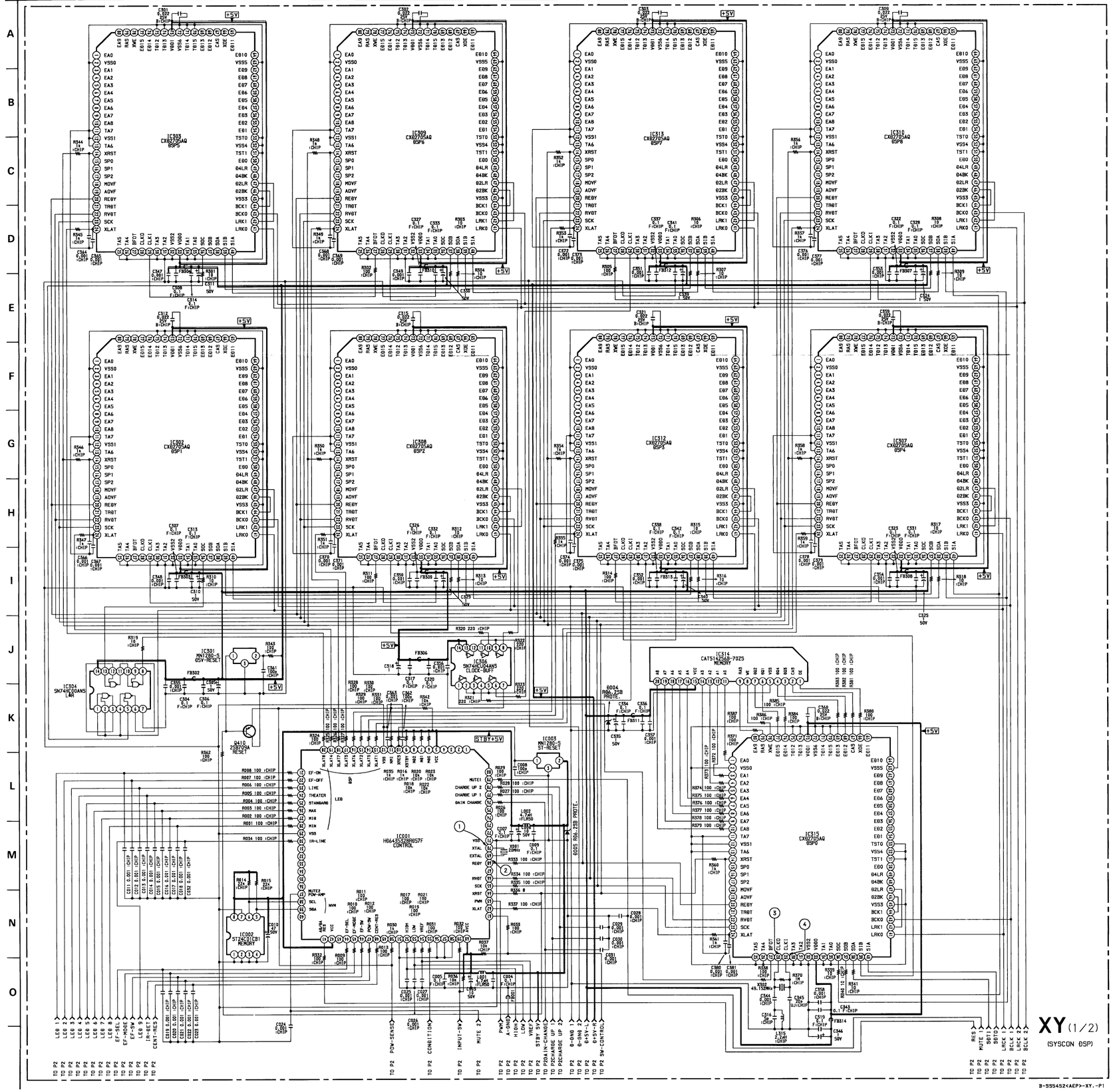
IC	
IC001	D-2
IC002	E-1, E-14
IC003	C-1, C-14
IC201	F-2
IC202	F-1
IC203	F-2
IC204	F-1
IC301	C-1, C-14
IC302	B-1
IC303	A-2
IC304	B-1
IC306	C-3
IC307	B-6
IC308	B-3
IC309	A-3
IC310	A-6
IC312	B-4
IC313	A-4
IC314	D-5, D-10
IC315	D-4
IC401	F-5
IC402	F-5
IC403	D-9
IC404	D-6
IC405	D-5
IC406	F-4
IC407	F-4
IC408	F-6, F-9
IC409	G-5
IC410	H-2, H-13
IC411	G-6

TRANSISTOR	
Q401	H-11
Q402	H-11
Q403	H-11
Q404	H-14
Q405	H-5
Q406	G-14
Q407	G-14
Q408	G-10
Q409	H-11
Q410	C-14

DIODE	
D004	D-10
D005	C-12
D201	F-14
D202	F-14
D403	H-11
D404	H-11
D405	H-11
D406	H-11







• XY (1/2) BOARD WAVEFORMS

① 20 MHz	② 20 MHz	③ 49.152 MHz	
1.6 Vp-p (H)	0.8 Vp-p (H)	0.3 Vp-p (H)	
④ 49.152 MHz			
0.1 Vp-p (H)			

XY BOARD (1/2) IC VOLTAGE LIST

IC001	1	–		46	5.0		3	GND		14	*		39	2.4
	2	–		47	0	IC301	1	5.0		15	5.0		40	1.2
	3	–		48	5.1		2	5.0		16	*		41	2.5
	4	–		49	–		3	GND		17	*		42	2.5
	5	5.0		50	5.0	IC304	1	2.5		18	*		43	2.5
	6	5.1		51	GND		2	2.5		19	2.2		44	2.5
	7	5.1		52	2.6		3	2.5		20	2.2		45	GND
	8	5.1		53	2.4		4	2.5	IC315	1	2.5		46	2.5
	9	5.1		54	2.4		5	2.5		2	GND		47	2.5
	10	5.1		55	2.4		6	3.8		3	2.5		48	–
	11	5.1		56	GND		7	GND		4	2.5		49	–
	12	5.1		57	GND		8	2.5		5	*		50	–
	13	5.1		58	GND		9	3.8		6	*		51	GND
	14	5.1		59	0		10	3.8		7	*		52	GND
	15	5.1		60	5.0		11	3.8		8	*		53	GND
	16	5.1		61	0		12	2.5		9	2.5		54	–
	17	5.1		62	5.1		13	2.5		10	2.5		55	–
	18	5.1		63	2.5		14	5.0		11	0		56	–
	19	5.1		64	5.0	IC306	1	*		12	0		57	–
	20	5.1		65	5.0		2	2.0		13	0		58	–
	21	5.1		66	0		3	2.0		14	5.0		59	–
	22	0		67	–		4	2.6		15	–		60	–
	23	0		68	2.0		5	2.0		16	–		61	–
	24	5.1		69	2.3		6	2.6		17	–		62	–
	25	0		70	2.3		7	GND		18	–		63	GND
	26	0		71	GND		8	2.5		19	–		64	–
	27	5.1		72	–		9	2.0		20	1.1		65	–
	28	0		73	–		10	2.6		21	–		66	5.0
	29	GND		74	–		11	2.0		22	0		67	5.0
	30	5.0		75	–		12	–		23	5.0		68	0
	31	–		76	0		13	5.0		24	5.0		69	0
	32	–		77	0		14	5.0		25	GND		70	GND
	33	–		78	0	IC314	1	3.3		26	GND		71	GND
	34	–		79	5.0		2	3.2		27	1.8		72	GND
	35	–		80	–		3	2.5		28	0		73	5.0
	36	–	IC002	1	GND		4	2.5		29	2.5		74	GND
	37	5.0		2	GND		5	2.5		30	GND		75	GND
	38	5.0		3	GND		6	0		31	GND		76	0
	39	5.0		4	GND		7	2.5		32	GND		77	0
	40	–		5	5.0		8	4.0		33	5.0		78	5.0
	41	0		6	5.0		9	2.4		34	GND		79	5.0
	42	5.0		7	GND		10	–		35	GND		80	–
	43	–		8	–		11	2.5		36	3.0			
	44	5.0	IC003	1	5.1		12	2.5		37	2.4			
	45	5.0		2	5.0		13	2.5		38	2.5			

All voltages are in V
• : Can not be measured
– : Blank pin

IC302, 303, 307, 310		IC308, 309, 312, 313	
14	5.0	14	5.0
20	*	20	*
22	0	22	0
23	5.0	23	5.0
24	5.0	24	5.0
25	GND	25	GND
26	GND	26	GND
29	1.7	27	1.8
30	GND	29	2.8
31	GND	30	GND
32	GND	31	GND
33	5.0	32	GND
34	GND	33	5.0
35	GND	34	GND
36	2.5	35	GND
39	2.5	36	2.5
40	2.5	37	3.7
41	2.5	38	3.8
42	2.5	39	2.5
43	2.5	40	2.5
44	2.5	41	2.5
45	GND	42	2.5
46	2.5	43	2.5
47	2.5	44	2.5
70	GND	45	GND
71	GND	46	2.5
72	GND	47	2.5
73	5.0	70	GND
74	GND	71	GND
75	GND	72	GND
		73	5.0
		74	GND
		75	GND

All voltages are in V
Pin numbers which are not described are not used

XY (1/2) BOARD TRANSISTOR LIST

REF	B	C	E
Q410	5.0	5.0	GND

All voltages are in V

XY BOARD (2/2) IC VOLTAGE LIST

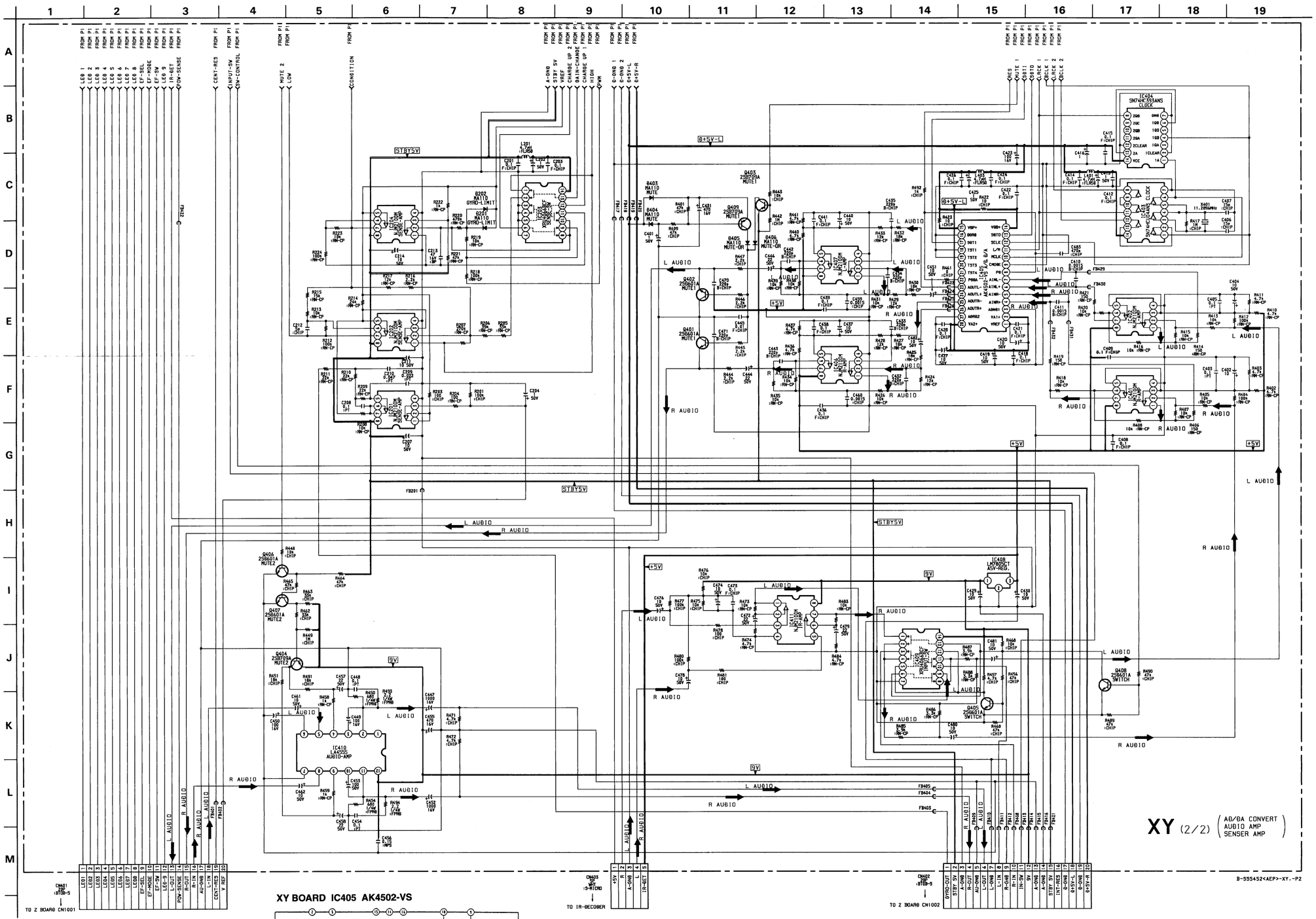
IC201	1	5.0		2	2.5	IC406	1	2.6
	2	5.0		3	2.5		2	2.6
	3	0		4	2.3		3	2.6
	4	GND		5	2.3		4	GND
	5	4.2		6	2.9		5	2.6
	6	5.0		7	GND		6	2.6
	7	5.0		8	2.5		7	2.6
	8	5.0		9	2.5		8	5.0
IC202	1	5.0		10	2.5	IC406	1	2.6
	2	5.0		11	2.5		2	2.6
	3	5.0		12	2.5		3	2.6
	4	GND		13	2.5		4	GND
	5	5.0		14	5.0		5	2.6
	6	5.0	IC404	1	3.0		6	2.6
	7	5.0		2	GND		7	2.6
	8	5.0		3	–		8	5.0
IC204	1	5.0		4	2.6	IC408	1	9.0
	2	5.0		5	–		2	GND
	3	5.0		6	2.6		3	5.0
	4	GND		7	GND	IC409	1	4.6
	5	5.0		8	2.5		2	4.5
	6	5.0		9	–		3	4.6
	7	5.0		10	–		4	4.5
	8	GND		11	–		5	0
IC203	1	5.0		12	GND		6	2.6
	2	5.0		13	2.6		7	GND
	3	GND		14	5.0		8	4.6
	4	GND	IC405	1	2.5		9	4.6
	5	GND		2	5.0		10	4.6
	6	0		3	GND		11	4.6
	7	GND		4	2.6		12	0
	8	5.0		5	2.6		13	7.6
	9	4.9		6	2.6		14	9.0
	10	5.0		7	2.6	IC410	1	–
	11	5.0		8	0		2	0
	12	0		9	GND		3	9.0
	13	0		10	2.9		4	2.3
	14	5.0		11	2.6		5	0
IC401	1	2.6		12	2.6		6	6.5
	2	2.6		13	1.3		7	GND
	3	2.6		14	5.0		8	0
	4	GND		15	4.9		9	2.1
	5	2.6		16	GND		10	9.0
	6	2.6		17	2.5		11	0
	7	2.6		18	GND		12	9.1
	8	5.0		19	GND	IC411	1	4.6
IC402	1	2.6		20	–		2	4.6
	2	2.6		21	–		3	4.6
	3	2.6		22	0		4	GND
	4	GND		23	2.6		5	4.6
	5	2.6		24	2.5		6	4.6
	6	2.6		25	2.5		7	4.6
	7	2.6		26	2.5		8	7.1
	8	5.0		27	GND			
IC403	1	2.5		28	5.0			

All voltages are in V
– : Blank pin

XY (2/2) BOARD TRANSISTOR LIST

REF	B	C	E
Q401	0.8	0	0
Q402	0.8	0	0
Q403	4.3	5.0	5.0
Q404	8.4	9.1	9.0
Q405	0.7	0	GND
Q406	0	2.9	GND
Q407	0.7	0	GND
Q408	0	7.6	GND
Q409	4.9	5.0	4.9

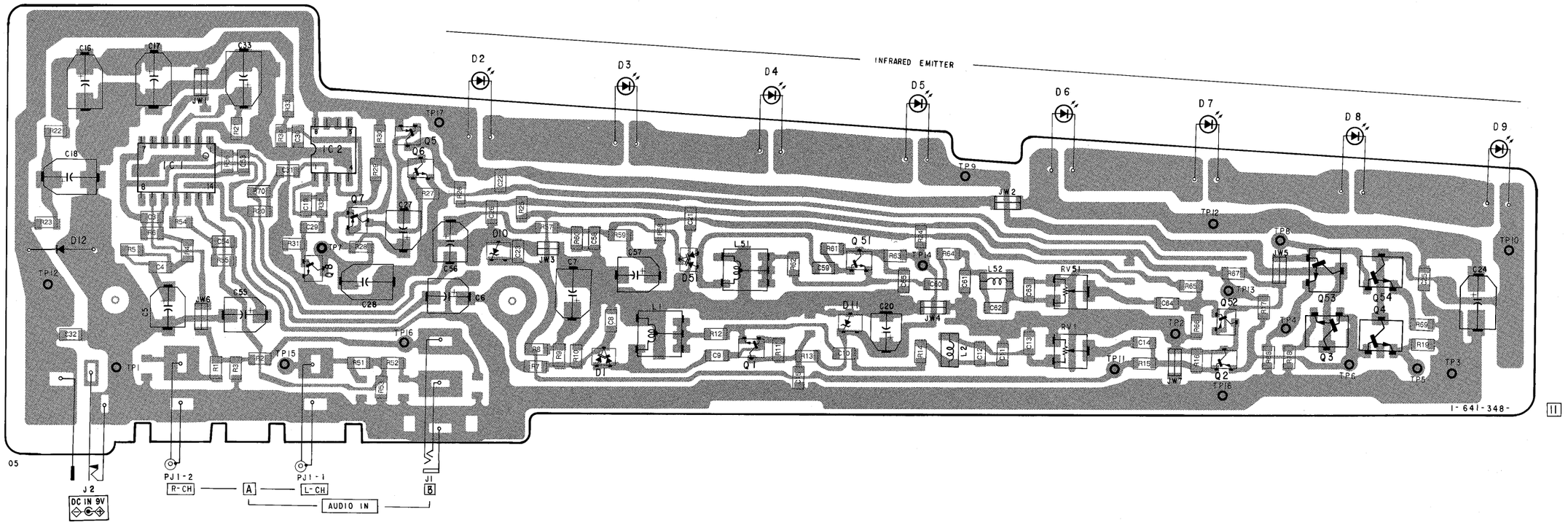
All voltages are in V



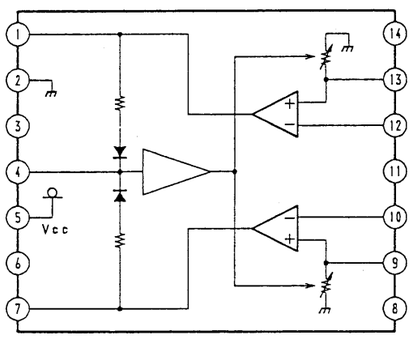
TX BOARD
(INFRARED TRANSMITTER)

IC1 AGC AMP — IC1 BA3308F
IC2 AUTO OFF AMP — IC2 BA4558F
Lch
Rch
B2–B9 INFRARED EMITTER DNP324 X 8
Q3, Q4, Q53, Q54 LED DRIVER
AUDIO IN
DC IN 9V
FREQ ADJ
RF LEVEL ADJ
L1 2.8MHz OSC COIL
L51 2.3MHz OSC COIL
L2 68μH
L52 82μH
D10 RB6.2MB REG
D11 RB2.4 MB REG
Q1 2SC2714Y OSC/MOD
Q51 2SC2714Y OSC/MOD
Q2 2SA1162Y BUFFER
Q52 2SA1162Y BUFFER
Q5 BTA114EK POWER ON/OFF SWITCH
Q7 2SA1162Y SWITCH
Q6 2SC2712G SWITCH
Q8 2SC2712G SWITCH
D1 SVC205CP
D51 SVC205CP
L AUDIO
R AUDIO
5V
9V

– TX BOARD –

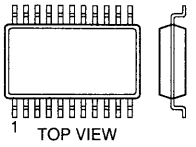


• **IC Block Diagrams**
IC1 BA3308F



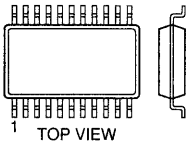
5-4. SEMICONDUCTIONS

AK4502-VS-E1



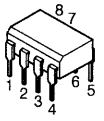
28pin SOP

BA3308F
SN74HC393ANS
SN74HC393ANS-E20
SN74HCU04ANS-E20
XRU4066BCF

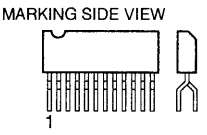


14pin SOP

BA4558F

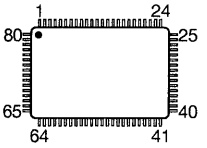


CAT514256B-70ZS

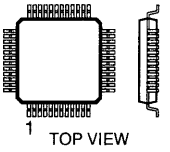


ZIP 20pin

CXD2705AQ

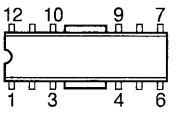


HD6435328F-VP1



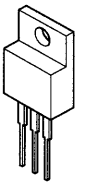
80pin QFP

LA4555

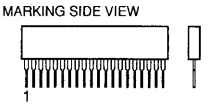


Schematic diagrams

LM7805CT
TA7805S

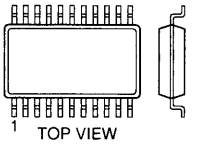


MN1280-S



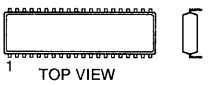
3pin SIP

NJM2100M-A



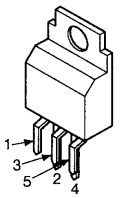
8pin SOP

RC4558P
ST24C01CB1
UPC4558C

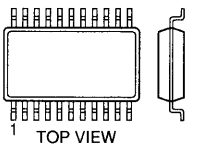


8pin DIP

SI-3090CA

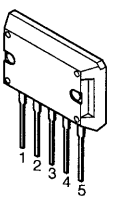


SN74HC00ANS-E20

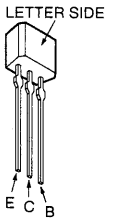


24pin SOP

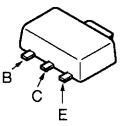
STR9005



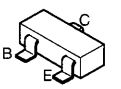
2SC2785-HFE
2SC3311A-QRSTA



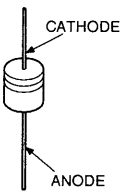
2SD1615A-GP
2SD999



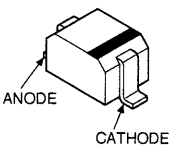
DTA114EK
2SA1162-G
2SA1162Y
2SB709A-QRS-TX
2SC2712G
2SC2712-YG
2SC2714Y
2SD601A-Q
2SD601A-QRS-TX



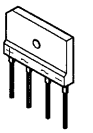
D1N20-TA2
D1N20R
RD3.9ESB1
11ES2
1SR139-100
1SS119-25
1SS119-25TD



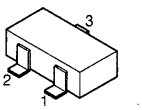
MA110
MA110-TX
RD6.2SB
RD6.2SB-12



RBA-406B

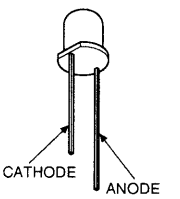


RD2.4M-B
RD6.2M-B2

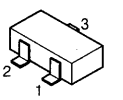


RD9.1EW
RD9.1EW-T1

SEL1213C-D
SEL1813A-D



SVC203CP



TX board

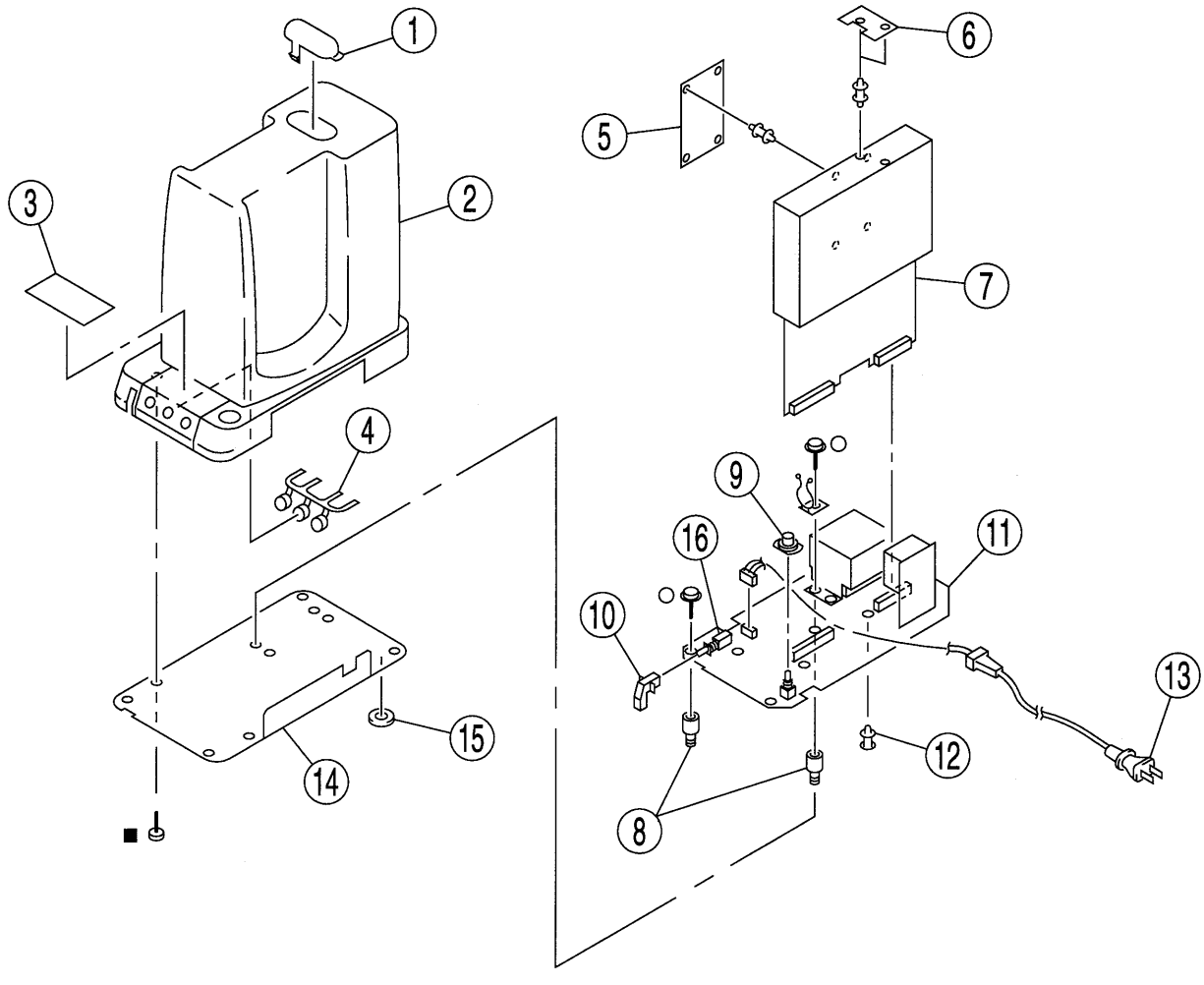
SECTION 6
EXPLODED VIEW

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

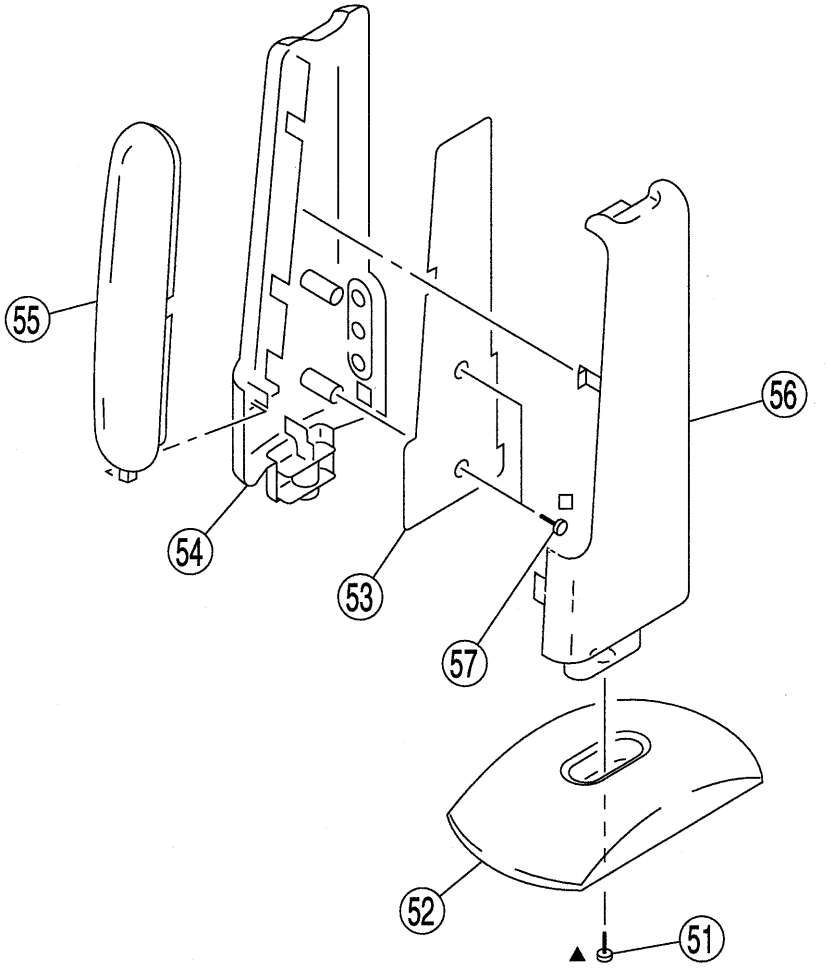
6-1. CHASSIS (VIP-1000)

■ : BVTP 4X16 7-685-663-79
○ : SCREW, TERMINAL 7-682-560-04



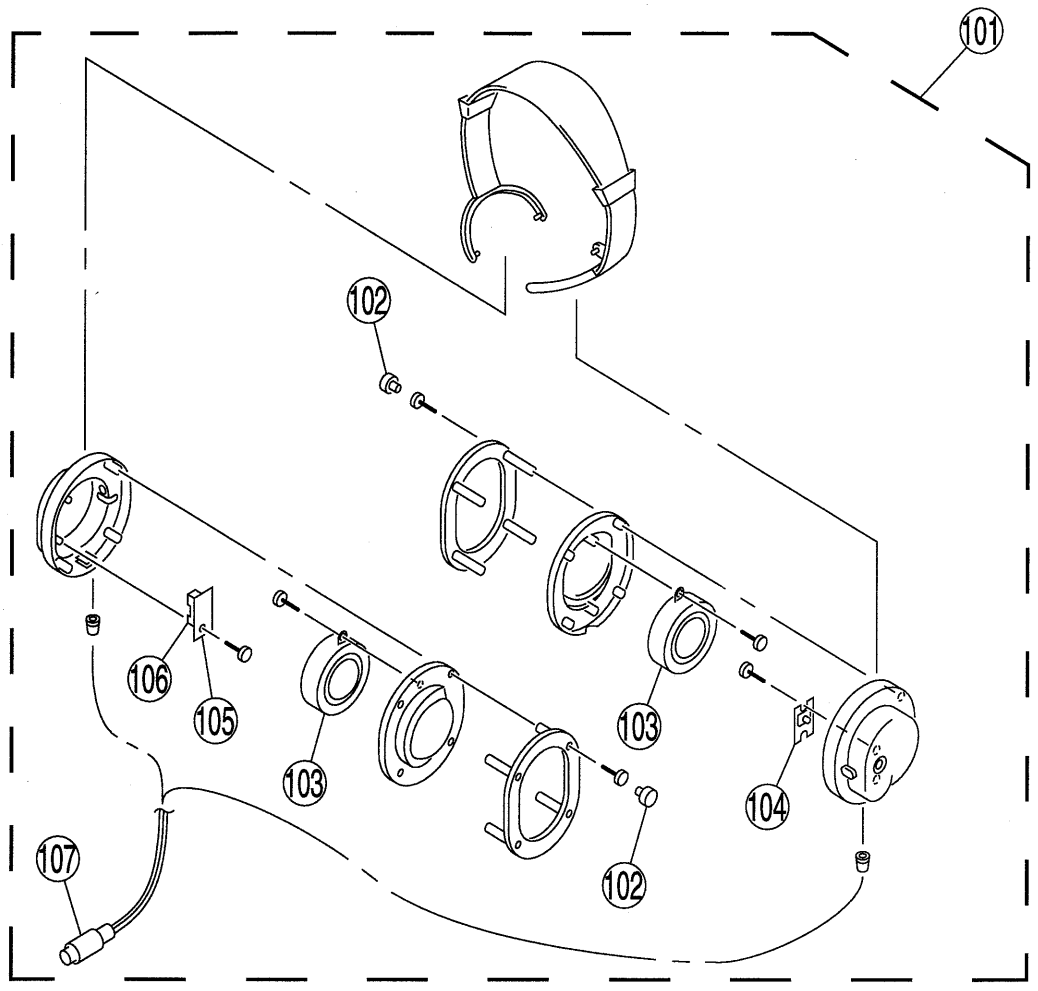
REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-045-741-01	COVER, INFRARED RECEIVER	
2	4-049-423-01	CABINET, HP	
3	* 4-045-743-01	LABEL, CONTROL	
4	4-045-746-01	BUTTON, MULTI	
5	1-810-666-11	DECODER, INFRARED RAY	
6	1-810-667-11	SENSOR, INFRARED RAY	
7	* A-1394-572-A	XY BOARD, COMPLETE	
8	4-046-390-01	SUPPORT	
9	4-045-742-01	COVER, VOLUME	
10	4-045-745-01	BUTTON, POWER	
11	* A-1390-547-A	Z BOARD, COMPLETE	
12	* 3-687-542-41	SPACER, PC BOARD SPACE	
13	⚠ 1-775-474-11	CORD, POWER (WITH CONNECTOR) (2.5A/250V)	
14	4-045-744-01	COVER, BOTTOM	
15	4-809-913-99	FOOT, F	
16	⚠ 1-571-433-12	SWITCH, PUSH (AC POWER)	

6-2. TRANSMITTER (TMR-IF310)



REF. NO.	PART NO.	DESCRIPTION	REMARK
51	7-685-660-29	SCREW +BVTP 4X10 TYPE2 SLIT	
52	4-947-802-11	STAND	
53	* A-4542-059-A	TX BOARD, COMPLETE	
54	4-947-806-01	CABINET (L)	
55	4-947-803-01	WINDOW, LUMINOUS	
56	4-947-807-01	CABINET (R)	
57	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	

6-3. HEADPHONE (VIP-1000H)



REF. NO.	PART NO.	DESCRIPTION	REMARK
101	1-504-683-11	HEADPHONE	2-7
102	9-907-819-01	CAP	
103	9-907-816-01	SPEAKER UNIT	
104	9-907-818-01	B BOARD, COMPLETE	
105	9-907-817-01	A BOARD, COMPLETE	
106	1-810-662-11	SENSOR, ANGULAR VELOCITY	
107	9-907-815-01	CORD, WITH CONNECTOR	

SECTION 7
ELECTRICAL PARTS LIST

Z

NOTE:

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

- CAPACITORS
  PF : μμ F
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION			REMARK
	* A-1390-547-A	Z BOARD, COMPLETE (VAR) **********			
	4-045-740-01	CASE, LAMP			
	4-369-267-01	SPACER, MICA			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C601	⚠ 1-104-705-51	FILM	0.1μF	20%	250V
C602	⚠ 1-104-705-51	FILM	0.1μF	20%	250V
C603	1-126-953-11	ELECT	2200μF	20%	35V
C604	1-124-902-00	ELECT	0.47μF	20%	50V
C605	1-104-664-11	ELECT	47μF	20%	25V
C606	1-128-548-11	ELECT	4700μF	20%	25V
C607	1-124-902-00	ELECT	0.47μF	20%	50V
C608	1-104-664-11	ELECT	47μF	20%	25V
C609	1-164-096-11	CERAMIC	0.01μF		50V
C610	1-164-096-11	CERAMIC	0.01μF		50V
C611	1-164-096-11	CERAMIC	0.01μF		50V
C612	1-164-096-11	CERAMIC	0.01μF		50V
C613	1-164-096-11	CERAMIC	0.01μF		50V
C614	1-164-096-11	CERAMIC	0.01μF		50V
C615	1-164-096-11	CERAMIC	0.01μF		50V
C616	1-164-096-11	CERAMIC	0.01μF		50V
C617	1-124-902-00	ELECT	0.47μF	20%	50V
C618	1-104-664-11	ELECT	47μF	20%	25V
C619	1-126-964-11	ELECT	10μF	20%	50V
C620	⚠ 1-104-705-51	FILM	0.1μF	20%	250V
C621	1-164-096-11	CERAMIC	0.01μF		50V
C622	1-164-085-11	CERAMIC	0.001μF	10%	50V
C623	1-164-097-11	CERAMIC	0.022μF		50V
C625	1-164-073-11	CERAMIC	100PF	10%	50V
C1201	1-126-965-11	ELECT	22μF	20%	50V
C1202	1-126-965-11	ELECT	22μF	20%	50V
C1203	1-137-399-11	FILM	0.1μF	5%	50V
C1204	1-126-964-11	ELECT	10μF	20%	50V
C1205	1-126-964-11	ELECT	10μF	20%	50V
C1206	1-126-964-11	ELECT	10μF	20%	50V
		<CONNECTOR>			
CN602	* 1-580-843-11	PIN, CONNECTOR (POWER)			
CN1001	1-573-298-21	CONNECTOR, BOARD TO BOARD 20P			
CN1002	1-573-298-21	CONNECTOR, BOARD TO BOARD 20P			
CN1003	1-564-505-11	PLUG, CONNECTOR 2P			
		<DIODE>			
D601	8-719-510-48	DIODE D1N20R			
D602	8-719-312-47	DIODE RBA-406B			
D603	8-719-510-48	DIODE D1N20R			
D604	8-719-510-48	DIODE D1N20R			
D605	8-719-510-48	DIODE D1N20R			
D606	8-719-109-71	DIODE RD3.9ESB1			
D607	8-719-911-19	DIODE 1SS119-25			
D1001	8-719-302-17	DIODE SEL1813A-D			
D1002	8-719-302-17	DIODE SEL1813A-D			
D1003	8-719-302-17	DIODE SEL1813A-D			
D1004	8-719-302-17	DIODE SEL1813A-D			
D1005	8-719-302-17	DIODE SEL1813A-D			
D1006	8-719-302-17	DIODE SEL1813A-D			
D1007	8-719-302-17	DIODE SEL1813A-D			
D1008	8-719-302-17	DIODE SEL1813A-D			
D1009	8-719-301-63	DIODE SEL1213C-D			
D1202	8-719-108-12	DIODE RD9.1EW			
D1203	8-719-108-12	DIODE RD9.1EW			
		<FUSE>			
F601	⚠ 1-576-230-11	FUSE (H.B.C.) (3.15A/250V)			
	1-533-223-11	HOLDER, FUSE; F601			
		<FERRITE BEAD>			
FB601	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB602	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB1201	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB1202	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB1203	1-412-911-11	INDUCTOR, FERRITE BEAD			
		<FILTER>			
FL1201	1-236-071-11	ENCAPSULATED COMPONENT			
FL1202	1-236-071-11	ENCAPSULATED COMPONENT			
FL1203	1-236-071-11	ENCAPSULATED COMPONENT			
FL1204	1-236-071-11	ENCAPSULATED COMPONENT			
FL1205	1-236-071-11	ENCAPSULATED COMPONENT			
FL1206	1-162-617-11	CERAMIC	0.022μF		50V
FL1207	1-162-617-11	CERAMIC	0.022μF		50V
		<IC>			
IC601	8-749-920-58	IC SI-3090CA			
IC602	8-749-990-05	IC STR9005			
IC603	8-759-231-53	IC TA7805S			
IC1201	8-759-145-58	IC μPC4558C			
		<JACK>			
J1201	1-573-112-11	SOCKET, CONNECTOR 8P			
J1202	1-766-599-11	JACK BLOCK, PIN (L TYPE) 2P			
		<TRANSISTOR>			
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q603	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1001	8-729-119-78	TRANSISTOR 2SC2785-HFE			

Z **XY**

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION				REMARK
Q1002	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1003	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1004	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1005	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1006	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1007	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1008	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1009	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R601	1-249-429-11	CARBON	10K	5%	1/4W	
R602	1-247-863-91	CARBON	22K	5%	1/4W	
R603	⚠ 1-218-265-21	METAL	8.2M	5%	1W	
R604	1-249-437-11	CARBON	47K	5%	1/4W	
R605	1-249-425-11	CARBON	4.7K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R607	1-249-437-11	CARBON	47K	5%	1/4W	
R608	1-249-437-11	CARBON	47K	5%	1/4W	
R609	1-247-863-91	CARBON	22K	5%	1/4W	
R612	1-249-441-11	CARBON	100K	5%	1/4W	
R613	1-216-456-00	METAL OXIDE	820	5%	2W	F
R1001	1-249-429-11	CARBON	10K	5%	1/4W	
R1002	1-249-429-11	CARBON	10K	5%	1/4W	
R1003	1-249-429-11	CARBON	10K	5%	1/4W	
R1004	1-249-429-11	CARBON	10K	5%	1/4W	
R1005	1-249-429-11	CARBON	10K	5%	1/4W	
R1006	1-249-429-11	CARBON	10K	5%	1/4W	
R1007	1-249-429-11	CARBON	10K	5%	1/4W	
R1008	1-249-429-11	CARBON	10K	5%	1/4W	
R1009	1-249-429-11	CARBON	10K	5%	1/4W	
R1010	1-249-429-11	CARBON	10K	5%	1/4W	
R1011	1-249-429-11	CARBON	10K	5%	1/4W	
R1012	1-249-429-11	CARBON	10K	5%	1/4W	
R1013	1-249-411-11	CARBON	330	5%	1/4W	
R1014	1-249-411-11	CARBON	330	5%	1/4W	
R1015	1-249-429-11	CARBON	10K	5%	1/4W	
R1016	1-249-411-11	CARBON	330	5%	1/4W	
R1017	1-249-429-11	CARBON	10K	5%	1/4W	
R1018	1-249-411-11	CARBON	330	5%	1/4W	
R1019	1-249-411-11	CARBON	330	5%	1/4W	
R1020	1-249-411-11	CARBON	330	5%	1/4W	
R1021	1-249-429-11	CARBON	10K	5%	1/4W	
R1022	1-249-437-11	CARBON	47K	5%	1/4W	
R1023	1-249-437-11	CARBON	47K	5%	1/4W	
R1024	1-249-429-11	CARBON	10K	5%	1/4W	
R1025	1-249-411-11	CARBON	330	5%	1/4W	
R1026	1-249-411-11	CARBON	330	5%	1/4W	
R1027	1-249-411-11	CARBON	330	5%	1/4W	
R1201	1-215-457-00	METAL	33K	1%	1/4W	
R1202	1-215-457-00	METAL	33K	1%	1/4W	
R1204	1-215-433-00	METAL	3.3K	1%	1/4W	
R1205	1-215-433-00	METAL	3.3K	1%	1/4W	
R1206	1-215-423-00	METAL	1.2K	1%	1/4W	
R1207	1-249-441-11	CARBON	100K	5%	1/4W	
R1208	1-215-423-00	METAL	1.2K	1%	1/4W	
R1209	1-249-441-11	CARBON	100K	5%	1/4W	
R1210	1-249-429-11	CARBON	10K	5%	1/4W	
R1211	1-249-429-11	CARBON	10K	5%	1/4W	
R1212	1-249-441-11	CARBON	100K	5%	1/4W	
R1213	1-247-887-00	CARBON	220K	5%	1/4W	
R1214	1-249-441-11	CARBON	100K	5%	1/4W	
R1215	1-247-887-00	CARBON	220K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV1001	1-223-734-11	RES, VAR, CARBON 20K/20K				

REF. NO.	PART NO.	DESCRIPTION				REMARK
		<SWITCH>				
S1001	1-571-532-21	SWITCH, TACTIL				
S1002	1-571-532-21	SWITCH, TACTIL				
S1003	1-571-532-21	SWITCH, TACTIL				
S1004	⚠ 1-571-433-21	SWITCH, PUSH (AC POWER)				
S1201	1-554-798-41	SWITCH, SLIDE				
		<TRANSFORMER>				
T601	⚠ 1-423-895-11	TRANSFORMER, LINE FILTER (LFT)				
T602	⚠ 1-429-144-11	TRANSFORMER, POWER				
T603	⚠ 1-423-895-11	TRANSFORMER, LINE FILTER (LFT)				
**********						
	* A-1394-572-A	XY BOARD, COMPLETE				
		**********				
	4-382-854-11	SCREW (M3X10), P, SW (+)				
		<CAPACITOR>				
C003	1-126-964-11	ELECT	10μF	20%	50V	
C004	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
C005	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
C006	1-107-929-11	ELECT	10μF	20%	50V	
C007	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
C008	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C009	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
C010	1-126-967-11	ELECT	47μF	20%	50V	
C011	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C012	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C013	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C014	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C015	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C016	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C017	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C018	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C019	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C020	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C021	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C022	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C023	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C024	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C025	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C026	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C027	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C028	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C029	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C030	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C031	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C032	1-163-141-00	CERAMIC CHIP	0.001μF	5%	50V	
C201	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
C202	1-124-903-11	ELECT	1μF	20%	50V	
C203	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
C204	1-124-903-11	ELECT	1μF	20%	50V	
C207	1-126-964-11	ELECT	10μF	20%	50V	
C208	1-137-399-11	FILM	0.1μF	5%	50V	
C209	1-137-372-11	FILM	0.022μF	5%	50V	
C210	1-137-374-11	FILM	0.047μF	5%	50V	
C211	1-126-964-11	ELECT	10μF	20%	50V	
C212	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V	
C213	1-107-701-11	ELECT	47μF	20%	16V	
C214	1-126-964-11	ELECT	10μF	20%	50V	
C301	1-163-037-11	CERAMIC CHIP	0.022μF	10%	25V	
C302	1-163-037-11	CERAMIC CHIP	0.022μF	10%	25V	
C303	1-163-037-11	CERAMIC CHIP	0.022μF	10%	25V	

REF. NO.	PART NO.	DESCRIPTION			REMARK
C304	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C305	1-107-902-11	ELECT	1µF	20%	50V
C306	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C307	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C308	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C309	1-163-037-11	CERAMIC CHIP	0.022µF	10%	25V
C310	1-107-902-11	ELECT	1µF	20%	50V
C311	1-107-902-11	ELECT	1µF	20%	50V
C312	1-163-037-11	CERAMIC CHIP	0.022µF	10%	25V
C313	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C314	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C315	1-163-037-11	CERAMIC CHIP	0.022µF	10%	25V
C316	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C317	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C318	1-124-903-11	ELECT	1µF	20%	50V
C319	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C320	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C321	1-163-037-11	CERAMIC CHIP	0.022µF	10%	25V
C322	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C323	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C324	1-107-902-11	ELECT	1µF	20%	50V
C325	1-107-902-11	ELECT	1µF	20%	50V
C326	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C327	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C328	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C329	1-107-902-11	ELECT	1µF	20%	50V
C330	1-107-902-11	ELECT	1µF	20%	50V
C331	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C332	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C333	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C334	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C335	1-124-903-11	ELECT	1µF	20%	50V
C336	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C337	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C338	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C339	1-107-902-11	ELECT	1µF	20%	50V
C340	1-107-902-11	ELECT	1µF	20%	50V
C341	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C342	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C343	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C344	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C345	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C346	1-124-903-11	ELECT	1µF	20%	50V
C347	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C348	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C349	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C350	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C351	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C352	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C353	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C354	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C355	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C356	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C357	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C358	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C359	1-163-037-11	CERAMIC CHIP	0.022µF	10%	25V
C360	1-163-037-11	CERAMIC CHIP	0.022µF	10%	25V
C361	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C362	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C363	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C364	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C365	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C366	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C367	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C368	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C369	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C370	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C371	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C372	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C373	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C374	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C375	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C376	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C377	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C378	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C379	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C380	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C381	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C401	1-124-903-11	ELECT	1µF	20%	50V
C402	1-126-964-11	ELECT	10µF	20%	50V
C403	1-137-399-11	FILM	0.1µF	5%	50V
C404	1-126-964-11	ELECT	10µF	20%	50V
C405	1-137-399-11	FILM	0.1µF	5%	50V
C406	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C407	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C408	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C409	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C410	1-163-011-11	CERAMIC CHIP	0.0015µF	10%	50V
C411	1-163-011-11	CERAMIC CHIP	0.0015µF	10%	50V
C412	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C413	1-124-903-11	ELECT	1µF	20%	50V
C414	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C415	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C416	1-124-903-11	ELECT	1µF	20%	50V
C418	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C419	1-126-964-11	ELECT	10µF	20%	50V
C420	1-126-964-11	ELECT	10µF	20%	50V
C421	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C422	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C423	1-126-933-11	ELECT	100µF	20%	16V
C424	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C425	1-124-903-11	ELECT	1µF	20%	50V
C426	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C427	1-126-964-11	ELECT	10µF	20%	50V
C428	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C429	1-126-964-11	ELECT	10µF	20%	50V
C430	1-126-964-11	ELECT	10µF	20%	50V
C431	1-126-935-11	ELECT	470µF	20%	16V
C432	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C433	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C434	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C435	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C436	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C437	1-126-964-11	ELECT	10µF	20%	50V
C438	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C439	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C440	1-126-964-11	ELECT	10µF	20%	50V
C441	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C442	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C443	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C444	1-126-965-11	ELECT	22µF	20%	50V
C445	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C446	1-126-965-11	ELECT	22µF	20%	50V
C447	1-126-952-11	ELECT	1000µF	20%	16V
C448	1-137-399-11	FILM	0.1µF	5%	50V
C449	1-126-933-11	ELECT	100µF	20%	16V
C450	1-126-933-11	ELECT	100µF	20%	16V
C451	1-126-964-11	ELECT	10µF	20%	50V
C452	1-126-952-11	ELECT	1000µF	20%	16V
C453	1-124-122-11	ELECT	100µF	20%	50V
C454	1-137-399-11	FILM	0.1µF	5%	50V
C455	1-126-935-11	ELECT	470µF	20%	16V
C456	1-136-167-00	FILM	0.15µF	5%	50V
C457	1-126-965-11	ELECT	22µF	20%	50V
C458	1-126-965-11	ELECT	22µF	20%	50V
C459	1-163-145-00	CERAMIC CHIP	0.0015µF	5%	50V
C460	1-163-145-00	CERAMIC CHIP	0.0015µF	5%	50V

XY

REF. NO.	PART NO.	DESCRIPTION			REMARK
C461	1-126-964-11	ELECT	10µF	20%	50V
C462	1-126-964-11	ELECT	10µF	20%	50V
C470	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C471	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C472	1-126-965-11	ELECT	22µF	20%	50V
C473	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C474	1-126-964-11	ELECT	10µF	20%	50V
C476	1-126-964-11	ELECT	10µF	20%	50V
C478	1-126-964-11	ELECT	10µF	20%	50V
C479	1-126-965-11	ELECT	22µF	20%	50V
C480	1-126-964-11	ELECT	10µF	20%	50V
C481	1-126-964-11	ELECT	10µF	20%	50V
C482	1-126-964-11	ELECT	10µF	20%	50V
C483	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C484	1-165-319-11	CERAMIC CHIP	0.1µF		50V
		<CONNECTOR>			
CN401	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P			
CN402	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P			
CN403	*1-564-508-11	PLUG, CONNECTOR 5P			
		<DIODE>			
D004	8-719-158-19	DIODE RD6.2SB			
D005	8-719-158-19	DIODE RD6.2SB			
D201	8-719-404-46	DIODE MA110			
D202	8-719-404-46	DIODE MA110			
D403	8-719-404-46	DIODE MA110			
D404	8-719-404-46	DIODE MA110			
D405	8-719-404-46	DIODE MA110			
D406	8-719-404-46	DIODE MA110			
		<FERRITE BEAD>			
FB001	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB201	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB302	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB303	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB304	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB306	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB307	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB308	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB309	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB310	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB311	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB312	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB313	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB314	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB401	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB402	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB403	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB404	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB405	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB408	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB409	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB410	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB411	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB412	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB413	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB414	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB415	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB416	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB417	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB418	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB419	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB420	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB421	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB422	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB423	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB424	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB425	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB426	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB429	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB430	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB431	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB432	1-412-911-11	INDUCTOR, FERRITE BEAD			
		<IC>			
IC001	8-759-328-40	IC HD6435328RD57F			
IC002	8-759-280-75	IC ST24C01CB1			
IC003	8-759-403-44	IC MN1280-S			
IC201	8-759-184-98	IC NJM2100M-A			
IC202	8-759-184-98	IC NJM2100M-A			
IC203	8-759-509-05	IC XRU4066BCF			
IC204	8-759-184-98	IC NJM2100M-A			
IC301	8-759-403-44	IC MN1280-S			
IC302	8-752-352-30	IC CXD2705AQ			
IC303	8-752-352-30	IC CXD2705AQ			
IC304	8-759-256-59	IC HD74HC00FPEL			
IC306	8-759-269-92	IC SN74HCU04ANS-E20			
IC307	8-752-352-30	IC CXD2705AQ			
IC308	8-752-352-30	IC CXD2705AQ			
IC309	8-752-352-30	IC CXD2705AQ			
IC310	8-752-352-30	IC CXD2705AQ			
IC312	8-752-352-30	IC CXD2705AQ			
IC313	8-752-352-30	IC CXD2705AQ			
IC314	8-759-188-94	IC CAT514256B-70ZS			
IC315	8-752-352-30	IC CXD2705AQ			
IC401	8-759-184-98	IC NJM2100M-A			
IC402	8-759-184-98	IC NJM2100M-A			
IC403	8-759-269-92	IC SN74HCU04ANS-E20			
IC404	8-759-926-74	IC SN74HC393ANS			
IC405	8-759-252-39	IC AK4502-VS-E1			
IC406	8-759-184-98	IC NJM2100M-A			
IC407	8-759-184-98	IC NJM2100M-A			
IC408	8-759-231-53	IC TA7805S			
IC409	8-759-509-05	IC XRU4066BCF			
IC410	8-759-801-73	IC LA4555			
IC411	8-759-184-98	IC NJM2100M-A			
		<COIL>			
L001	1-410-466-41	INDUCTOR 4.7µH			
L002	1-410-466-41	INDUCTOR 4.7µH			
L201	1-410-466-41	INDUCTOR 4.7µH			
L315	1-410-196-11	INDUCTOR CHIP 2.2µH			
L401	1-410-466-41	INDUCTOR 4.7µH			
L403	1-410-466-41	INDUCTOR 4.7µH			
		<TRANSISTOR>			
Q401	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q402	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q403	8-729-216-22	TRANSISTOR 2SA1162-G			
Q404	8-729-216-22	TRANSISTOR 2SA1162-G			
Q405	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q406	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q407	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q408	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q409	8-729-216-22	TRANSISTOR 2SA1162-G			
Q410	8-729-216-22	TRANSISTOR 2SA1162-G			
		<RESISTOR>			
R001	1-216-025-91	METAL GLAZE 100		5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R002	1-216-025-91	METAL GLAZE	100	5%	1/10W
R003	1-216-025-91	METAL GLAZE	100	5%	1/10W
R004	1-216-025-91	METAL GLAZE	100	5%	1/10W
R005	1-216-025-91	METAL GLAZE	100	5%	1/10W
R006	1-216-025-91	METAL GLAZE	100	5%	1/10W
R007	1-216-025-91	METAL GLAZE	100	5%	1/10W
R008	1-216-025-91	METAL GLAZE	100	5%	1/10W
R009	1-216-025-91	METAL GLAZE	100	5%	1/10W
R010	1-216-025-91	METAL GLAZE	100	5%	1/10W
R011	1-216-025-91	METAL GLAZE	100	5%	1/10W
R012	1-216-025-91	METAL GLAZE	100	5%	1/10W
R013	1-216-025-91	METAL GLAZE	100	5%	1/10W
R014	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R015	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R016	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R017	1-216-025-91	METAL GLAZE	100	5%	1/10W
R018	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R019	1-216-025-91	METAL GLAZE	100	5%	1/10W
R020	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R021	1-216-025-91	METAL GLAZE	100	5%	1/10W
R022	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R023	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R026	1-216-025-91	METAL GLAZE	100	5%	1/10W
R027	1-216-025-91	METAL GLAZE	100	5%	1/10W
R028	1-216-025-91	METAL GLAZE	100	5%	1/10W
R029	1-216-025-91	METAL GLAZE	100	5%	1/10W
R030	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R031	1-216-025-91	METAL GLAZE	100	5%	1/10W
R032	1-216-025-91	METAL GLAZE	100	5%	1/10W
R033	1-216-025-91	METAL GLAZE	100	5%	1/10W
R034	1-216-025-91	METAL GLAZE	100	5%	1/10W
R035	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R036	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R037	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R201	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R203	1-216-025-91	METAL GLAZE	100	5%	1/10W
R204	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R205	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R206	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R207	1-218-762-11	METAL CHIP	270K	0.50%	1/10W
R208	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R209	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R210	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R211	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R212	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R213	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R214	1-216-684-91	METAL CHIP	24K	0.50%	1/10W
R215	1-208-810-11	METAL CHIP	15K	0.50%	1/10W
R216	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R217	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R218	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R219	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R220	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R221	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R222	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R223	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R224	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R301	1-216-001-00	METAL GLAZE	10	5%	1/10W
R302	1-216-025-91	METAL GLAZE	100	5%	1/10W
R303	1-216-001-00	METAL GLAZE	10	5%	1/10W
R304	1-216-001-00	METAL GLAZE	10	5%	1/10W
R305	1-216-025-91	METAL GLAZE	100	5%	1/10W
R306	1-216-001-00	METAL GLAZE	10	5%	1/10W
R307	1-216-001-00	METAL GLAZE	10	5%	1/10W
R308	1-216-001-00	METAL GLAZE	10	5%	1/10W
R309	1-216-001-00	METAL GLAZE	10	5%	1/10W
R310	1-216-001-00	METAL GLAZE	10	5%	1/10W
R311	1-216-025-91	METAL GLAZE	100	5%	1/10W
R312	1-216-001-00	METAL GLAZE	10	5%	1/10W
R313	1-216-001-00	METAL GLAZE	10	5%	1/10W
R314	1-216-025-91	METAL GLAZE	100	5%	1/10W
R315	1-216-001-00	METAL GLAZE	10	5%	1/10W
R316	1-216-001-00	METAL GLAZE	10	5%	1/10W
R317	1-216-001-00	METAL GLAZE	10	5%	1/10W
R318	1-216-001-00	METAL GLAZE	10	5%	1/10W
R319	1-216-001-00	METAL GLAZE	10	5%	1/10W
R320	1-216-037-00	METAL GLAZE	330	5%	1/10W
R321	1-216-037-00	METAL GLAZE	330	5%	1/10W
R322	1-216-037-00	METAL GLAZE	330	5%	1/10W
R323	1-216-037-00	METAL GLAZE	330	5%	1/10W
R324	1-216-025-91	METAL GLAZE	100	5%	1/10W
R325	1-216-025-91	METAL GLAZE	100	5%	1/10W
R326	1-216-025-91	METAL GLAZE	100	5%	1/10W
R327	1-216-025-91	METAL GLAZE	100	5%	1/10W
R328	1-216-025-91	METAL GLAZE	100	5%	1/10W
R329	1-216-025-91	METAL GLAZE	100	5%	1/10W
R330	1-216-025-91	METAL GLAZE	100	5%	1/10W
R331	1-216-025-91	METAL GLAZE	100	5%	1/10W
R332	1-216-025-91	METAL GLAZE	100	5%	1/10W
R333	1-216-025-91	METAL GLAZE	100	5%	1/10W
R334	1-216-025-91	METAL GLAZE	100	5%	1/10W
R335	1-216-025-91	METAL GLAZE	100	5%	1/10W
R337	1-216-025-91	METAL GLAZE	100	5%	1/10W
R338	1-216-025-91	METAL GLAZE	100	5%	1/10W
R339	1-216-001-00	METAL GLAZE	10	5%	1/10W
R340	1-216-001-00	METAL GLAZE	10	5%	1/10W
R341	1-216-001-00	METAL GLAZE	10	5%	1/10W
R342	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R343	1-216-025-91	METAL GLAZE	100	5%	1/10W
R344	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R345	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R346	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R347	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R348	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R349	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R350	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R351	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R352	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R353	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R354	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R355	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R356	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R357	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R358	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R359	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R360	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R361	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R362	1-216-025-91	METAL GLAZE	100	5%	1/10W
R363	1-216-033-00	METAL GLAZE	220	5%	1/10W
R364	1-216-033-00	METAL GLAZE	220	5%	1/10W
R365	1-216-033-00	METAL GLAZE	220	5%	1/10W
R366	1-216-033-00	METAL GLAZE	220	5%	1/10W
R367	1-216-033-00	METAL GLAZE	220	5%	1/10W
R368	1-216-033-00	METAL GLAZE	220	5%	1/10W
R370	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R371	1-216-025-91	METAL GLAZE	100	5%	1/10W
R372	1-216-025-91	METAL GLAZE	100	5%	1/10W
R373	1-216-025-91	METAL GLAZE	100	5%	1/10W
R374	1-216-025-91	METAL GLAZE	100	5%	1/10W
R375	1-216-025-91	METAL GLAZE	100	5%	1/10W
R376	1-216-025-91	METAL GLAZE	100	5%	1/10W
R377	1-216-025-91	METAL GLAZE	100	5%	1/10W
R378	1-216-025-91	METAL GLAZE	100	5%	1/10W
R379	1-216-025-91	METAL GLAZE	100	5%	1/10W
R380	1-216-025-91	METAL GLAZE	100	5%	1/10W
R381	1-216-025-91	METAL GLAZE	100	5%	1/10W
R382	1-216-025-91	METAL GLAZE	100	5%	1/10W

XY **TX**

The componants identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
R383	1-216-025-91	METAL GLAZE	100	5%	1/10W
R384	1-216-025-91	METAL GLAZE	100	5%	1/10W
R385	1-216-025-91	METAL GLAZE	100	5%	1/10W
R386	1-216-025-91	METAL GLAZE	100	5%	1/10W
R387	1-216-025-91	METAL GLAZE	100	5%	1/10W
R401	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R402	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R403	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R404	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R405	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R406	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R407	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R408	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R409	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R410	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R411	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R412	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R413	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R414	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R415	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R416	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R417	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R418	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R419	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R420	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R421	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R422	1-216-001-00	METAL GLAZE	10	5%	1/10W
R423	1-216-001-00	METAL GLAZE	10	5%	1/10W
R424	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R425	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R426	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R427	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R428	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R429	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R430	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R431	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R432	1-208-812-11	METAL CHIP	18K	0.50%	1/10W
R433	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R434	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R435	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R436	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R437	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R438	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R439	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R440	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R441	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R442	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R443	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R444	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R445	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R446	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R447	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R448	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R449	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R450	1-249-415-11	CARBON	680	5%	1/4W F
R451	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R454	1-249-415-11	CARBON	680	5%	1/4W F
R456	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R457	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R458	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R459	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R460	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R461	1-216-295-91	CONDUCTOR, CHIP			
R462	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R463	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R464	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R465	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R468	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R471	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R472	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R473	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R474	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R475	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R476	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R477	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R478	1-216-025-91	METAL GLAZE	100	5%	1/10W
R480	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R481	1-216-025-91	METAL GLAZE	100	5%	1/10W
R483	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R484	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R485	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R486	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R487	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R488	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R489	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R490	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R491	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R492	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R493	1-249-385-11	CARBON	2.2	5%	1/4W F
R494	1-249-385-11	CARBON	2.2	5%	1/4W F

<CRYSTAL>

X001	1-567-928-11	VIBLATOR, CERAMIC			
X302	1-579-692-31	VIBRATOR, CRYSTAL			
X401	1-579-178-11	VIBRATOR, CRYSTAL			

****

MISCELLANEOUS
****

⚠	1-775-474-11	CORD, POWER (WITH CONNECTOR) (2.5A/250V)			
	1-810-666-11	DECODER, INFRARED RAY			
	1-810-667-11	SENSOR, INFRARED RAY			

****

ACCESSORIES AND PACKING MATERIALS
****

⚠	1-465-835-21	ADAPTOR, AC (AC-96N EM)			
	* 1-504-683-11	HEADPHONE			
	1-558-787-81	CORD, CONNECTION			
	3-759-265-11	MANUAL, INSTRUCTION			
	3-701-627-00	BAG, POLYETHYLENE			
	* 4-044-852-01	CUSHION (UPPER)			
	* 4-044-853-01	CUSHION (LOWER)			
	* 4-045-781-01	BAG, PROTECTION			
	* 4-046-206-01	BAG, POLYETHYLENE			
	* 4-050-491-01	INDIVIDUAL CARTON			
	4-050-732-01	LABEL, APPROVAL			
	4-050-738-01	LABEL, CE			
	8-913-813-90	TRANSMITTER TMR-IF310 SET			

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	* A-4542-059-A	TX BOARD, COMPLETE			

****

<CAPACITOR>

C3	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C4	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
C5	1-126-603-11	ELECT	4.7μF	20%	35V
C6	1-126-601-11	ELECT	2.2μF	20%	50V
C7	1-126-205-11	ELECT	47μF	20%	6.3V
C8	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
C9	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C10	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C11	1-163-107-00	CERAMIC CHIP	39PF	5%	50V
C12	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C13	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C14	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C15	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C16	1-126-204-11	ELECT	47µF	20%	16V
C17	1-126-204-11	ELECT	47µF	20%	16V
C18	1-126-204-11	ELECT	47µF	20%	16V
C19	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C20	1-126-607-11	ELECT	47µF	20%	4V
C21	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C22	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C23	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C24	1-126-204-11	ELECT	47µF	20%	16V
C25	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C26	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C27	1-124-779-00	ELECT	10µF	20%	16V
C28	1-126-199-11	ELECT	6.8µF	20%	35V
C29	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C30	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C31	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C32	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C33	1-126-205-11	ELECT	47µF	20%	6.3V
C53	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C54	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C55	1-126-603-11	ELECT	4.7µF	20%	35V
C56	1-126-601-11	ELECT	2.2µF	20%	50V
C57	1-126-205-11	ELECT	47µF	20%	6.3V
C58	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C59	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C60	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C61	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C62	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C63	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C64	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C65	1-163-031-11	CERAMIC CHIP	0.01µF		50V

<DIODE>

D1	8-719-939-02	DIODE SVC203CP
D2	8-719-992-13	DIODE DAL5815
D3	8-719-992-13	DIODE DAL5815
D4	8-719-992-13	DIODE DAL5815
D5	8-719-992-13	DIODE DAL5815
D6	8-719-992-13	DIODE DAL5815
D7	8-719-992-13	DIODE DAL5815
D8	8-719-992-13	DIODE DAL5815
D9	8-719-992-13	DIODE DAL5815
D10	8-719-106-08	DIODE RD6.2M-B2
D11	8-719-105-28	DIODE RD2.4M-B
D12	8-719-200-82	DIODE 11ES2
D51	8-719-939-02	DIODE SVC203CP

<IC>

IC1	8-759-998-71	IC BA3308F
IC2	8-759-909-71	IC BA4558F

<JACK>

J1	1-573-798-11	JACK, MINIATURE (DIA. 3.5)
J2	1-569-966-11	JACKE, DC
PJ1-1	1-563-866-21	JACK, PIN 1P
PJ1-2	1-563-866-41	JACK, PIN 1P

<COIL>

L1	1-409-693-11	COIL (OSC)
L2	1-410-391-11	INDUCTOR CHIP 68µH
L51	1-409-692-11	COIL (OSC)
L52	1-410-392-11	INDUCTOR CHIP 82µH

<TRANSISTOR>

Q1	8-729-200-87	TRANSISTOR 2SC2714-Y
Q2	8-729-216-22	TRANSISTOR 2SA1162-G
Q3	8-729-140-75	TRANSISTOR 2SD999-CLCK
Q4	8-729-140-75	TRANSISTOR 2SD999-CLCK
Q5	8-729-901-04	TRANSISTOR DTA114EK
Q6	8-729-230-49	TRANSISTOR 2SC2712-YG
Q7	8-729-216-22	TRANSISTOR 2SA1162-G
Q8	8-729-230-49	TRANSISTOR 2SC2712-YG
Q51	8-729-200-87	TRANSISTOR 2SC2714-Y
Q52	8-729-216-22	TRANSISTOR 2SA1162-G
Q53	8-729-140-75	TRANSISTOR 2SD999-CLCK
Q54	8-729-140-75	TRANSISTOR 2SD999-CLCK

<RESISTOR>

R1	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R3	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R4	1-216-025-91	METAL GLAZE	100	5%	1/10W
R5	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R6	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R7	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R8	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R9	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R10	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R11	1-216-111-91	METAL GLAZE	390K	5%	1/10W
R12	1-216-025-91	METAL GLAZE	100	5%	1/10W
R13	1-216-025-91	METAL GLAZE	100	5%	1/10W
R14	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R15	1-216-336-11	METAL GLAZE	47K	1%	1/10W
R16	1-216-518-11	METAL GLAZE	2.2K	1%	1/10W
R17	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R18	1-216-003-11	METAL GLAZE	12	5%	1/10W
R19	1-216-003-11	METAL GLAZE	12	5%	1/10W
R20	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R21	1-216-133-00	METAL GLAZE	3.3M	5%	1/10W
R22	1-216-043-91	METAL GLAZE	560	5%	1/10W
R23	1-216-043-91	METAL GLAZE	560	5%	1/10W
R24	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R25	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R26	1-216-019-00	METAL GLAZE	56	5%	1/10W
R27	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R28	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R29	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R30	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R31	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R32	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R33	1-216-111-91	METAL GLAZE	390K	5%	1/10W
R34	1-216-115-00	METAL GLAZE	560K	5%	1/10W
R51	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R52	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R53	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R54	1-216-025-91	METAL GLAZE	100	5%	1/10W
R55	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R56	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R57	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R58	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R59	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R60	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R61	1-216-111-91	METAL GLAZE	390K	5%	1/10W
R62	1-216-025-91	METAL GLAZE	100	5%	1/10W
R63	1-216-025-91	METAL GLAZE	100	5%	1/10W
R64	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R65	1-216-336-11	METAL GLAZE	47K	1%	1/10W
R66	1-216-518-11	METAL GLAZE	2.2K	1%	1/10W

TX

REF. NO.	PART NO.	DESCRIPTION		REMARK
R67	1-216-061-00	METAL GLAZE 3.3K	5%	1/10W
R68	1-216-003-11	METAL GLAZE 12	5%	1/10W
R69	1-216-003-11	METAL GLAZE 12	5%	1/10W
R70	1-216-073-00	METAL GLAZE 10K	5%	1/10W
		<VARIABLE RESISTOR>		
RV1	1-238-989-11	RES, ADJ, METAL GLAZE 2.2K		
RV51	1-238-989-11	RES, ADJ, METAL GLAZE 2.2K		

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